

Careers and labour market information: an international review of the evidence



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Welcome to Education Development Trust

At Education Development Trust, we have been improving education around the world for 50 years. We design and implement improvement programmes for school systems, deliver expert careers and employability services, and deploy specialists to provide consultancy services internationally.

Our work is informed by our continually refreshed body of research that focuses on the bright spots in education, from education authorities as diverse as those in Vietnam, Kenya, England, New York and Dubai.

Bringing about real change that alters the aspects of a national system that, for many reasons, isn't working so well at the time, requires knowledge and the ability to design and implement changes to any of the levers that can impede great educational outcomes. So the ability to affect policy, practices, pedagogy, behaviour, funding, attitudes and more is a prerequisite for a company that can truly claim to transform lives through improving education.

With highly informed agents of change operating in low- to high-income countries with their varying internal contexts, we not only design, but also show and enable – so when working with us, everyone involved, from policymakers to school leaders and teachers, is able to apply their new knowledge to drive sustainable system reform.

Our expert knowledge, programme design and implementation expertise is also deployed in delivering Ofsted-rated outstanding careers services in England, and in owning and managing a family of independent schools.

We are a not-for-profit and we are driven by our values of integrity, accountability, excellence and collaboration.

About our Careers service

Education Development Trust has first-rate credentials in providing services that bridge the gap between education, training and employment. We have been a leading careers service provider in the UK for over 20 years and have a successful track record of managing programmes delivering careers, employment and skills support.

We work with national and local funders to deliver high-quality careers support to young people and adults. In both the management and delivery of our services, we combine our extensive professional knowledge and experience with up-to-date technology, helping us not only to engage with customers but also to maximise our impact for them. We adopt a joined-up approach with local stakeholders to develop our work, from linking up with employers, schools and colleges to nurturing key strategic relationships with local authorities, local enterprise partnerships (LEPs) and other partner organisations.

About the authors

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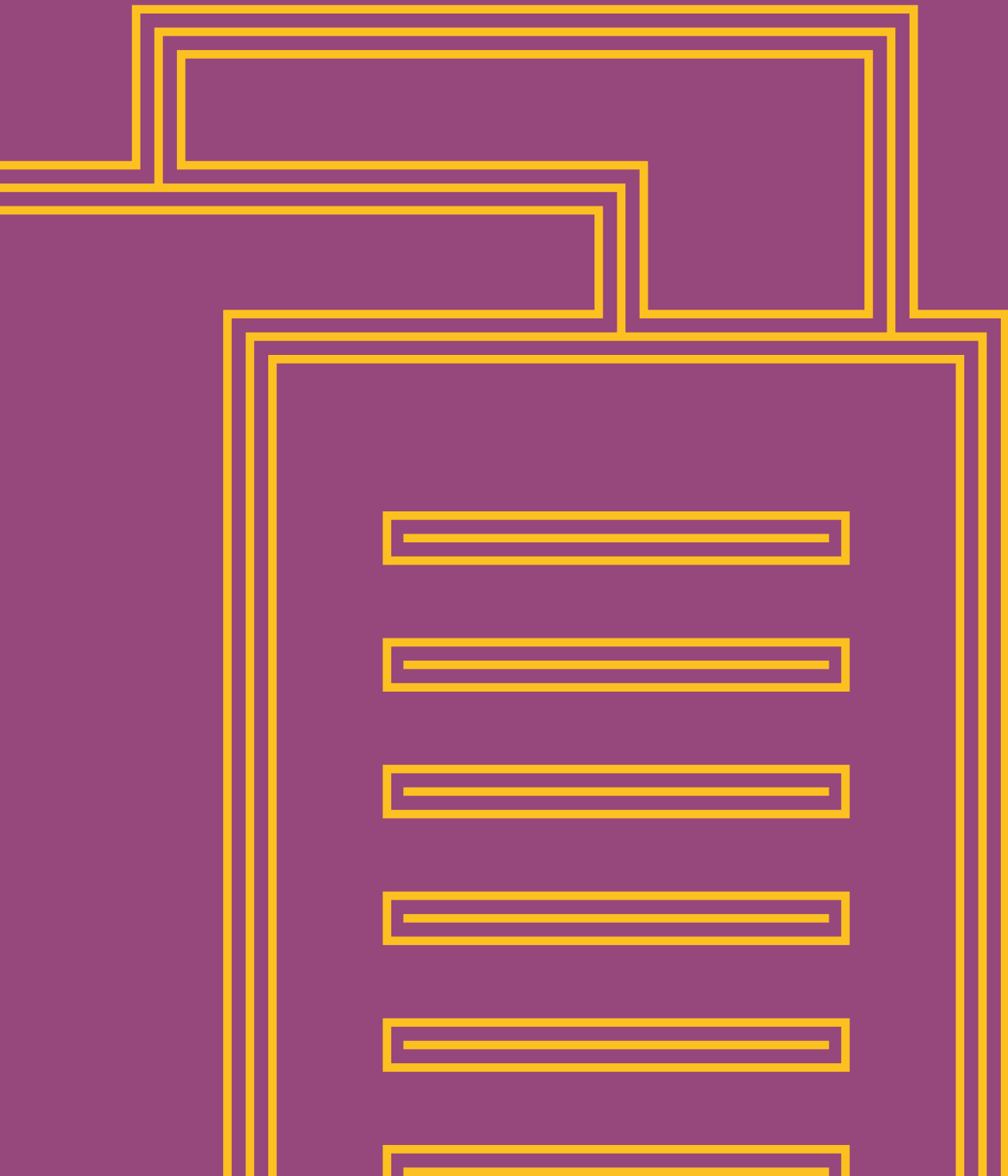


Acronyms and abbreviations

CIP	Cognitive Information Processing
CLMI	Careers and Labour Market Information
CMS	Career Management Skills
CPD	Continuing Professional Development
DOTS	Decision learning; Opportunity awareness; Transition learning; and Self awareness
ELGPN	European Lifelong Policy Guidance Network
HESA	Higher Education Statistics Agency
LEPs	Local Enterprise Partnerships
LMI	Labour Market Information
LMIS	Labour Market Information Systems
NCDA	National Career Development Association
NICE	National Institute for Careers Education
OECD	The Organisation for Economic Co-operation and Development
SIC	Standard Industrial Classification
SOC	Standard Occupational Classification
UCAS	Universities and Colleges Admissions Service
UKCES	Commission for Employment and Skills

Chapter 1

Introduction



Effective careers advice is impossible without good quality labour market information.

This literature review starts with an assumption that great labour market information (LMI) is a critical component of any great careers service.

Careers professionals and advisers, the people whose job it is to offer and support careers advice in the community or in schools, are key to success. Vital to the work of these careers advisers is access and familiarity with a robust and sophisticated body of intelligence about the labour market. To support individual users of the careers services, either in the community or in schools, careers practitioners must be both knowledgeable about the labour market and skilled in translating this information for the benefit of their clients.

A key role for careers services and careers practitioners¹ is to ensure that, as far as possible, the understanding that service users have of the working world is accurate, appropriate and comprehensive. The work of the professionals in this area may involve addressing knowledge gaps and challenging inaccurate perceptions. Individuals need to understand the availability of jobs, as well as the skills, qualifications and experience that employers require. They need to know where to look for work and how to apply effectively for available jobs. Understanding and predicting what kinds of changes there may be in the working world in the future, in terms of demand for jobs and the skills and knowledge required in different sectors, is also important for ensuring that people remain skilled and able to navigate complex career trajectories in uncertain times.

In this context, this review has been driven by a desire to ascertain what makes for great labour market information and what is needed to ensure its effective use. In keeping with our research approach our interest is in providing insight targeted at policy and practice.

We have focused on literature from the last ten years which considers LMI, and its application within effective careers practice.² The search strategy was necessarily broad.³ Materials excluded from this literature review are those which publicised specific services or products (such as specific information materials) and those which reference or discuss 'careers information' as a short-hand for careers services, not distinguishing information as a specific part of careers provision.

Overall, the quality of much of the existing literature is good, but there are some limitations to the coverage. It is notable that the studies of LMI for school-age students rarely make much reference to the education context. This seems to us a weakness of the literature, given that careers support in schools is an important

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¹In this report we have chosen to use the terminology of 'careers practitioner' as a generic term to refer to a range of different professional designations or titles including careers adviser, careers coach, careers consultant, careers counsellor and other associated roles. ²Searches were carried out through a range of academic databases, including the British Education Index, British Library ETHOS, JSTOR Journals, PsycINFO and Science Direct, among others. The websites of government departments, research institutions, international and national careers education and guidance organisations and others were also directly searched. Further searches were carried out using Google Scholar and Google. ³In recognition of the fact that the difference between labour market information (LMI) and careers information can be indistinct, the search terms used were: 'Labour market information' and 'labor market information' (recognising the American and English spellings of these terms); 'Career Information' and 'careers information'; and 'Occupational information'. These terms were used to search for literature published within the last ten years (2007–18). Further relevant sources were identified through reviewing the bibliographies of relevant papers, and through consulting a range of theoretical and practical textbooks aimed at careers professionals.

component of a rounded education provision. As an organisation that works both in adult and school contexts we are keen to bridge this divide.

Although we have tried to make this a global review, we are limited by a paucity of material and the lack of a truly international literature.⁴ This results in a bias towards material from 'Western' contexts. Despite this limitation, we hope that the review has international relevance.

We seek to provide clarity and practical insight

Labour market information is hard to describe and define. It exists in many places and in many forms. It has different creators, serves different purposes and has different mediators and users. Much of it was not specifically intended to be a source of LMI for careers purposes.

In this report we try to draw lessons from the literature to:

- enable policymakers to create excellent careers services, supported by excellent LMI
- assist the providers and users of labour market information with insight into what constitutes good practice in its creation and use – with the needs of service users firmly in mind.

We have identified evidence for the following key findings in the literature:

1. There is a need for a clear and inclusive view about what is meant by LMI.

There are some definitional complexities that those involved in policy and practice should be aware of. 'LMI' is the most commonly used phrase but it is not the only one. In much of the economic and policy literature, LMI refers to narrow interpretations mainly comprising statistical data about workforce supply and workplace demand.⁵ A less restrictive phrase that has been used is 'careers and labour market information' or CLMI.⁶ We choose to use the more common language of LMI but refer to broader definitions in terms of what counts as LMI.⁷ The sources of LMI considered in the literature differ according to the breadth of the definition of LMI being used. With restricted definitions of LMI, producers typically include government sources and statistical data sets. In addition to specially created LMI materials, any relevant information that helps to build understanding about career and job requirements, patterns and availability, counts as LMI.

2. Technology can improve access to LMI but can also create problems in terms of quality.

Within the literature there is a considerable focus on how the internet has changed the ways in which LMI is both produced and consumed. The internet has resulted in LMI being much easier to both access and produce. Although this has significant benefits, there are also challenges – particularly in terms of the variable quality and sheer proliferation of LMI available online.

3. The LMI available to service users is not always sufficiently comprehensive.

Due to the extraordinary diversity of potential LMI sources, it is necessarily hard to ensure that all the information that might possibly be needed is available. There can also be differences in the comparative availability of LMI sources at different scales

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⁴Savard *et al.* (2005) ⁵For example, ILO (2018); Sparreboom and Powell (2009); Sparreboom, T. (2001) ⁶Hooley, Hutchinson and Watts (2010); The Careers & Enterprise Company (2018)

⁷The first substantive chapter of this report delves into these definitional complexities and issues.

– with national and regional data more readily available than local data. There is a tendency for more 'official' sources of LMI (for example, those provided by government) to focus more on the needs of the provider or labour market than on the needs of the end-user.

4. For the end-user, the quality of LMI is more important than quantity.

'More' information does not necessarily lead to better decision-making, due to the complexity of career decisions and the challenges of being able to have complete information. The literature suggests that some element of mediation of information is required, in order to make possible a degree of personalisation.

5. Careers professionals need to be appropriately skilled in the use and mediation of LMI and keep their knowledge up to date. Consideration must be given to how LMI is integrated into careers service delivery. Good LMI is more than a collection of 'items' of information; it is part of a process of engagement and reflection. The effectiveness of LMI is therefore closely related to the support and training available to careers professionals.

6. The use of LMI should be linked to insights derived from the developing 'theory' of careers decision-making. Traditional theoretical models, going back to work of Parsons, emphasised the need to 'match' individuals with suitable careers opportunities. This is now widely seen as overly simplistic. Today, careers professionals also have access to theoretical models based on humanistic/ person-centred thinking and social learning frameworks. These more modern approaches emphasise the role of LMI in assisting a dialogue intended to facilitate client choice and personal learning.

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Lessons for policymakers

The findings of this review suggest that central, regional and local government action can play an important facilitative and integrating role, creating the conditions for a strong careers service based on good LMI. This could be done by:

- **Recognising the complexity of LMI.** There is a danger that policymakers define LMI too narrowly, with an emphasis on statistical and quantitative data. Clients need access to a rich, wide range of information of many different types.
- **Ensuring a good supply of useful, comprehensive LMI.** Government should identify gaps and ways of supplementing existing LMI so that end-users have access to comprehensive information. Some data necessary for career decision-makers may not be gathered as a matter of course for other purposes. Expanding supply can often be done through proactive partnership arrangements with other bodies.
- **Promoting accessibility via smart use of technology.** The internet plays an increasingly important role in the provision of LMI. The government can develop and encourage portals for easy, quality-assured access. Digital literacy on the part of service users can be promoted through wider education programmes.

- **Undertaking a quality assurance role.** Users need to have access to LMI that is consistently reliable from many different sources. Government can monitor and regulate LMI provision, developing quality standards and 'signposting' users to quality assured LMI. There is a need to quality assure internet-based resources.
- **Emphasising the importance of expert mediation of LMI.** Consideration should be given to how LMI can be embedded within the work of careers professionals. Practitioners need support and professional development in order to mediate LMI effectively. Government responsibility for quality provision also extends to embedding good use of LMI within professional standards and qualifications for advisers, and guidelines for school and college staff.
- **Thinking national and local.** In any country there will be a range of distinctive labour market characteristics at regional and local levels. A national 'one size fits all' approach is insufficient; the regional and local contextualisation of LMI is therefore essential.

Lessons for professional practice

The findings of the review also identify critical roles for those involved in the mediation of LMI. This includes careers professionals, educators and those involved in creating careers-related products or services. Effective professional practice is likely to cover the following features:

- **Recognise that LMI should underpin all forms of careers service delivery.** LMI is not a standalone resource; the use of LMI should inform all parts of service delivery, and activities of careers professionals and educators. The use of LMI should be an integral part of the design of blended models of service delivery, ensuring that online and other digital components of careers delivery are seamlessly integrated with onsite activities.
- **Personalise LMI in order to meet individual needs.** 'Off the peg' information resources will not suffice. In presenting LMI to clients it is essential that personal information needs are well understood, and information is provided in a way that makes it relevant to clients. This may involve contextualising and localising information provided via national sources.
- **Conceptualise LMI as a process, not a product.** Professionals should start by asking the question 'how can my client become informed?' rather than 'what information can I give them?'. This will help to situate LMI as assistance for a learning journey rather than an end in itself.
- **Integrate the use of LMI into a range of reflective opportunities.** LMI should be embedded across the full range of service delivery, including education, one-to-one guidance, and activities like mentoring, work experience, work shadowing and employer engagement.
- **Empower service users to find and interpret LMI for themselves.** Facilitating client access to, and interpretation of, LMI is often more valuable than direct provision of information as it helps build skills and competence in information handling.

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- **Ensure that effective use of LMI as a professional development priority requires a specific skill set and ongoing CPD.** Professionals working with LMI need specific skills which relate to accessing information, including digital and information literacies. Skills are also necessary in terms of working with LMI and clients; these include the ability to assess needs, challenge client ideas, and to recognise and critically reflect on ethical dilemmas. Professionals and their managers need to recognise the ongoing importance of professional development related to LMI.

Chapter 2

What is labour market information?



There are some definitional complexities about LMI that those involved in policy and practice should be aware of.

'LMI' is the most commonly used term but it is not the only phrase or acronym in use. LMI, in much of the economic and policy literature, refers to narrow interpretations mainly comprising statistical data about workforce supply and workplace demand.⁸ A less restrictive phrase that has been used is 'careers and labour market information' or CLMI.⁹ We choose to use the more common language of LMI but refer to broader definitions in terms of what counts as LMI.¹⁰

This chapter introduces the key terminology and explores:

- what a labour market is and how it has been conceived in the literature
- what labour market information is considered to include
- the confusion that can result from definitional complexity.

What is the labour market?

The terminology of the labour market positions the world of work as a marketplace, defined by interactions between 'buyers' of labour (e.g. employers) and 'sellers' of labour (e.g. job seekers and employees). The application of the marketplace analogy to the workplace is part of a wider trend of market models being applied across different aspects of social policy.¹¹

While the marketplace analogy offers an appealing simplicity, the notion of a straightforward 'labour market' that follows similar rules to those found in other market situations is highly questionable and has been repeatedly challenged in the literature. Clearly a 'market' in labour is fundamentally different to a market for goods or services. Labour markets do not easily achieve 'equilibrium' in the way that may be possible for markets for goods and services. According to the classical economic theory of markets for goods, market forces eventually lead to a balance between supply and demand; in the labour market this may be very difficult to achieve.¹² The supply of human effort is fundamentally different to the provision of goods for money.¹³ The 'buyers' of labour do not own the labour in the way that consumers own purchased goods.¹⁴ Labour 'markets' are characteristically complex.¹⁵ The buyers and sellers of labour are not necessarily 'rational' or 'predictable' in the way described by theorists of classical markets.¹⁶

In the careers literature, Offer discusses a number of different approaches, including segmentation theory and sociological views of the labour market.¹⁷ Segmentation theory considers that there may be different markets operating

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⁸ For example ILO, (2018); Sparreboom and Powell (2009); Sparreboom, T. (2001) ⁹ Hooley, Hutchinson and Watts (2010); The Careers & Enterprise Company (2018)

¹⁰ The first substantive chapter of this report delves into these definitional complexities and issues. ¹¹ Slater and Tonkiss (2001) ¹² Wadensjö (2013); Offer (2001) ¹³ Wadensjö (2013)

¹⁴ Offer (2001, 86) ¹⁵ Wadensjö (2013) ¹⁶ Sparreboom and Powell (2009) ¹⁷ Offer (2001)

within the world of work. A simple version of the theory posits a primary labour market (comprising all those jobs with good working conditions) and a secondary labour market (comprising jobs with low security, low wages, and so on). Sociological perspectives highlight the importance of social dynamics within labour markets, including issues of power and other social forces.

What is labour market information?

LMI can be defined as any information about the functioning of the labour market. It is used primarily by labour market 'players' to improve their labour market performance and in theory thereby improves the functioning of the labour market as a whole.

Slightly different lists of key users are identified in the literature depending on the nature of the publication;¹⁸ however, a composite list of users can be comprised, which includes:

- policymakers and planners
- managers of education and training institutions, including curriculum developers
- employers
- employees and potential employees
- employer or employee organisations; for example, industry bodies, unions
- researchers and analysts
- services or individuals involved in supporting individuals with education and employment including:
 - careers and employment services and their employees
 - teachers
 - parents.

Different user groups use information for different purposes and therefore have different needs. As an example, policymakers with an interest in the effectiveness of different policy interventions are likely to be most interested in statistical evidence of labour market change. Education institutions may have key interests in skills gaps, using this information to enable the development of appropriate courses. Individual users of LMI are likely to be interested in specific kinds of LMI relevant to their own career and employment decisions. Some examples are given in Figure 1.

Different user groups use information for different purposes and therefore have different needs

¹⁸ For example, from an economic and policy context see Sparreboom and Powell (2009) and from a careers service perspective see Attwell and Bimrose (2017)

FIGURE 1: EXAMPLE OF DIFFERENT USER INTERESTS

- **A course provider** is interested in the projected growth/decline of the construction sector, to allow a decision to be made around whether to invest in additional course delivery. In this instance the provider may look at data such as the Construction Skills Network Forecast 2019–2023.
- **Jessie is a young person in school.** She enjoys drawing and is interested in becoming an architect when she finishes school. She would like to find out more about the job and how to become an architect. Her Careers Adviser suggested she looks on <https://www.goconstruct.org/> for job related information.
- **Dan is a National Careers Service Adviser** who delivers in a local office. He has been asked to put on a sector-based workshop to showcase some of the local opportunities to customers. He looks at data for his local area and sees that construction is a large employment sector. By looking at economic development policy, he also sees that the area is investing heavily in infrastructure. Knowing that there are opportunities locally, Dan coordinates a sector workshop based on construction.

Given the complexity of the labour market and the different user needs, the terminology of LMI can therefore be applied in different ways to cover quite different forms of information. Some clear differences exist; for example, between the needs and considerations of policymakers compared to job-seekers. These differences are discussed further in the following two sections.

LMI for policymakers

Consideration of LMI from a policy or macro-economic perspective tend to focus on analyses of the *supply* of labour (for example, employment and unemployment levels; the skills of the workforce) and analyses of the workplace *demand* (for example, availability of work and the skills needs of different professions).¹⁹ This data is often statistical in nature and gathered through formal data collection channels, especially national surveys.

Not all countries have access to robust labour market statistics and the need to develop a national, coordinated approach to labour market data through the establishment of labour market information systems (LMIS) is emphasised in much of the international development literature.²⁰ Three main functions of LMIS are identified for policymakers: the description of current labour market conditions; the monitoring of labour market changes; and the evaluation of labour market (or other) policies.²¹ Guidance for countries looking to develop LMIS has been developed by the International Labour Organisation, which emphasises the value of LMIS for developing national indicators and supporting progress towards economic growth and the provision of 'decent work'.²² The literature in this area highlights that there are disparities between countries in terms of LMIS, with developed countries typically having more established systems than developing countries.²³

Not all countries have access to robust labour market statistics and the need to develop a national, coordinated approach to labour market data through the establishment of labour market information systems (LMIS) is emphasised in much of the international development literature

¹⁹ Cedefop (2016). See also, for example, Howat and Zaidi (2010) and their distinction between 'core LMI' and 'careers intelligence' ²⁰ Cedefop (2016); ILO (2018); and see Sparreboom (2001)
²¹ Sparreboom (2001, 152) ²² ILO (2018) ²³ ILO (2018)



LMIS are important to help inform national economic, education and employment policy. There are, however, different ideological perspectives on the way information is used by policymakers. Slater and Tonkiss identify that there tend to be two polarized views: 'those which hold that markets operate best when freed from wider forms of regulation (as in liberal political economy and neoliberalism) and those which hold that economic well-being depends on public measures to correct the effects of market failure and to curtail the inequalities produced by economic competition'.²⁴

The literature around LMIS suggests that, internationally, the trend has been to move away from using information to inform interventionist approaches – such as the development of detailed manpower plans in the 1960s and 1970s²⁵ – and towards facilitative approaches to labour market policy that focus on making information freely available to key labour market players. The underpinning rationale of facilitative approaches is that improving the quality and availability of information will lead to greater clarity among key labour market players and allow more effective choices to be made.²⁶ Examples might include individual workers adjusting their strategies for seeking work based on data about workplace demand, and employers adjusting their recruitment strategies based on data about the available workforce. Consequently, moves to make large national data sets freely available, often using the capacity of the internet, is a trend that has been apparent across many countries in recent years.

Although statistical data gathered through large national surveys is the mainstay of LMIS, there is a recognition that this data has some limitations. The extent to which LMIS provide a representative overview of the workforce depends upon what data is collected and how. LMIS may not accurately reflect informal working arrangements, which can be difficult to capture through national surveys. This can lead to under-reporting of some forms of informal work, and may be a particular issue in countries where informal labour is a large component of the workplace.²⁷ In addition, the use of historical labour market data to inform future actions (of employers or individuals) and future policy can be problematic. In particular, the extent to which historical data on economic activity can be used to reliably predict future activity has been questioned.²⁸ Although historical data may reveal general trends, large-scale shifts in activity through, for example, the impact of technological innovation, are difficult to predict. As a result, in addition to statistical data on current and past activities, future forecasting of labour market demands increasingly requires consideration of other information relating to technological innovation and possible consequences of globalisation.

LMIS for careers decisions

In the literature concerning individual careers choices, definitions of LMI are somewhat broader than in the economic and policy-focused literature. This is in recognition of the fact that individual careers decision-makers will require a wide range of information. To exemplify the breadth of information an individual decision-maker may need, consider the example overleaf.

The underpinning rationale of facilitative approaches is that improving the quality and availability of information will lead to greater clarity among key labour market players and allow more effective choices to be made

²⁴ Slater and Tonkiss (2001, 117) ²⁵ Sparreboom and Powell (2009) ²⁶ The spread of market models in the way human behaviour is conceptualised, including in the world of work, is explored in a number of publications including Slater and Tonkiss (2001) ²⁷ ILO (2018) ²⁸ Jordan and Jeffrey (2015)

A UK-based school-leaver is interested in careers in pursuing a career in care. They may need to know:

- what different career options there are in care and what these involve so that they can make a decision about what they would enjoy most
- the training routes and how they differ
- the long-term prospects for different professional roles – in terms of availability and opportunities for progression
- the current opportunities for employment or apprenticeships in care
- which courses are available for care at college or university
- public transport options for accessing college or employment – and therefore also what the hours of work may be
- their options for funding education courses
- their options for moving closer to opportunities if necessary (e.g. student accommodation).

As this example shows, a career decision may involve information needs not typically covered by narrower definitions of LMI – including information, for example, on educational and training courses or information on transport (including commuting), finance, and accommodation. In addition, the *kind* of information that is useful is likely to differ. Rather than statistical information which may be difficult to interpret at a personal or local level, information that helps an individual understand what a job is really ‘like’ and helps them to imagine how they would fit within those roles is likely to be important. Further, rather than general employment trends, information about what jobs are *currently* advertised in a region or sector may potentially be more relevant. The importance of highly personalised information was highlighted in a recent UK study, which identified that young people ‘often reported seeking what we might class as “inspiration” rather than information’.²⁹

LMI or careers information?

Considering the broad information needs of careers decision-makers, definitions of LMI in the careers literature are typically much broader than those in the economic and policy literature. However, there is little consensus evident in the literature about exactly *how* broadly LMI should be defined, and whether it should be conceptualised as different from ‘careers information’.

Some publications simply use an inclusive definition of LMI to include ‘all qualitative and quantitative information used by employers, students, employees and policymakers to make labour market decisions or plans’.³⁰ Alternatively, LMI can be seen as ‘as an over-arching concept to describe all types of information used during career guidance to support entry into and the (often complex) navigation around and through the world of work.’³¹

Rather than statistical information which may be difficult to interpret at a personal or local level, information that helps an individual understand what a job is really ‘like’ and helps them to imagine how they would fit within those roles is likely to be important

²⁹The Careers & Enterprise Company (2016) ³⁰Cedefop (2016, 19) ³¹Bimrose et al. (2006, 90)

Other approaches have attempted to differentiate different kinds of LMI – for example ‘hard’ and ‘soft’ LMI: the more informal qualitative information is considered ‘soft’ LMI, while statistical and formal information sources is seen as ‘hard’ information.³² Another common approach is to distinguish between ‘labour market information’ and ‘labour market intelligence’, with *information* often including core statistical information, while *intelligence* comprises information which has been translated and interpreted to make it useable to individuals.³³ This process of ‘translation’ may happen both through the creation of careers information products, or through the engagement that takes place when a careers professional helps an individual to interpret information relevant to their own situation.

A frequently cited and more detailed definition of LMI is given by Barnes and Bimrose³⁴, who identify the following common components:

- information on general employment trends (e.g. historical trends, future demand);
- data on the structure of the labour market (i.e. what jobs exist, how many, which sectors, which occupations);
- information about the way the labour market functions (i.e. how people get into jobs and move between employers, etc.);
- the interaction between labour demand and supply (i.e. mismatches – as reflected in unemployment rates, skills gaps, skills shortages, etc.);
- data on national, regional and local labour markets variations (i.e. size of workforce, prominent sectors etc.);
- data focusing on equality and diversity (i.e. which individuals are employed in different sectors and at what levels?); and
- information on progression routes (i.e. career structure, earnings, transferability of skills).³⁵

In a subsequent publication, Howat and Zaidi summarised Barnes and Bimrose’s list into three types of LMI:

- **Core LMI:** ‘bedrock labour market and employment information’ (e.g. demand for labour; employment trends; vacancy information).
- **Careers intelligence:** ‘More directly careers-related information, which is often quite qualitative in nature (compared to core LMI) and includes skills intelligence as well as information about employment practice (job/role profiles; recruitment requirements; career progression)’.
- **Skills development and training:** information on ‘training provision, development opportunities and qualifications’.³⁶

Whereas ‘core LMI’ aligns with the narrower economic definitions of LMI, Howat and Zaidi identify that the majority of LMI used by careers services and practitioners relates to careers ‘intelligence’. This latter category is considerably broader, even potentially including the data from activities such as the use of skills diagnostic tools ‘as these are presumed to be based on some form of underpinning LMI (e.g. skill requirements for employment in a given field)’.³⁷

The more informal qualitative information is considered ‘soft’ LMI, while statistical and formal information sources is seen as ‘hard’ information

³² UKCES (2012a); Department for Education and Skills (2004); Attwell and Bimrose, (2017) ³³ UKCES (2012b, 10); Barnes and Bimrose (2010) ³⁴ Barnes and Bimrose (2010) ³⁵ *ibid.* 16
³⁶ Howat and Zaidi (2010, 5) ³⁷ Howat and Zaidi (2010, 5)

The use of the terminology of 'careers intelligence' rather than 'labour market intelligence' in Howat and Zaidi's definition raises a further issue about how far *labour market* information and intelligence is distinct from *careers* information and intelligence. As well as potentially being more inclusive of occupational information, qualitative information and career tools and activities, the terminology of 'careers' is also often viewed as being more inclusive of educational information. For example, Hooley *et al.* suggest that there are three markets – the labour market, the educational market, and the careers market (which represents the labour market and the educational market).³⁸ Educational information is indeed core to careers information, but as Howat and Zaidi note, is often treated quite separately from other aspects of information.³⁹

Approaches were evident in the literature, which sought to resolve this possible confusion by explicitly combining the terminology of labour market and career information. A recent set of reports from UKCES, for example, refer to 'career-related LMI', defined as information which 'helps individuals consider routes into, and ways around and through, the world of work both now and in the future.'⁴⁰ In England The Gatsby Benchmarks, which define good practice in careers work in English schools, also use the combined terminology of 'careers and labour market information'.⁴¹ This terminology is also adopted by Hooley, Hutchinson and Watts⁴² and referred to using the initials CLMI. In some cases, 'careers information' is used as an overarching concept but with LMI conceptualised as a subset of information within the wider concept. The ELGPN guidelines for lifelong guidance policies and systems, for example, focus on 'improving careers information' but within the guidelines reference labour market information as part of this information.⁴³

A final approach used by careers services in some contexts is to apply different terms for different audiences. Kumar and Arulmani suggest, for example, that LMI may be a term that is retained by professionals, but when working with the wider public, alternative terms like the 'world of work' may be used.⁴⁴ In Scotland, Skills Development Scotland has differentiated between LMI for advisers and CMI (Career Management Information) for customers.⁴⁵ These latter approaches are interesting because they recognise the different salience of different terms for different audiences – locating LMI very much as the language of policymakers and professionals, and the vocabulary of careers or the workplace as the language of individuals. Using different language potentially recognises that careers services have a role delivering both against public policy objectives and the needs of individuals, and therefore services need to 'speak to' both groups.

The lack of clarity around the terminology of LMI for careers services and practitioners is potentially highly problematic. In particular, there are potential risks that the broad understanding of LMI within the careers field may not be mirrored by the same breadth of understanding by individuals from economic or policy backgrounds. Therefore, a recommendation in a report about 'improving LMI' may be interpreted quite differently by a policymaker from an economic development background and a careers professional. Further, with the language of LMI associated with statistical information and economic and policy interests, if this terminology is not adapted for use with individual career decision-makers and professionals who view their roles as primarily supporting individuals (e.g. teachers, advisers, parents),

The lack of clarity around the terminology of LMI for careers services and practitioners is potentially highly problematic

³⁸ Hooley, Hutchinson and Watts (2010) ³⁹ Howat and Zaidi (2010) ⁴⁰ UKCES (2012b, 10) ⁴¹ The Careers & Enterprise Company (2018) ⁴² Hooley, Hutchinson and Watts (2010) ⁴³ ELGPN (2015)

⁴⁴ Kumar and Arulmani (2014) ⁴⁵ UKCES (2012b)

then the perceived relevance of, and engagement with LMI may be reduced. Indeed, it is notable that the use of LMI by careers professionals and services has been a 'longstanding concern'.⁴⁶ The lack of clarity over terminology is compounded in some publications, which do not clearly define their terminology and appear to slip between descriptions of career and labour market information. There are also challenges that arise from labour market information and labour market intelligence both being referred to as 'LMI'.⁴⁷

Considering the literature, we can see that within careers settings the language of LMI is important but potentially not sufficient. Using the terminology of LMI clearly locates the work of careers advisers and services in terms of national economic and educational policy interests. In addition, the core statistical data provided through national surveys and LMIS remains central data for careers services. However, to *just* use the language of LMI risks underplaying the much wider information needs of individuals and careers services, including critically, the importance of occupational and educational information. There are publications within the careers literature that simply broaden definitions of LMI to include this information. Although this is not perfect, we advocate this approach in this report.

To *just* use the language of LMI risks underplaying the much wider information needs of individuals and careers services

LMI – a working definition

Within this report, LMI is defined broadly as information about any aspect of education and training for, entry into, progression through and experience of the working world. LMI includes information of different types and of different formats. Different types of information may include, but are not restricted to, the following:

Type of information	Example
Current and historical economic activity and employment information	<ul style="list-style-type: none"> • Details of employers and sectors • Employment levels by role, sector and region • Aggregated salary information
Information about the workforce	<ul style="list-style-type: none"> • Levels of economic activity or inactivity • Aggregated data on skills and qualification levels • Information about characteristics – such as gender, age, ethnic background – allowing for analysis of issues of equity and diversity in the workplace
Future forecasting information	<ul style="list-style-type: none"> • Information based on current employment information that attempts to make predictions about future trends • Future scenario forecasting that takes into account innovations and global shifts in economic production (i.e. technology replacing certain roles)
Career information about different workplace roles and duties	<ul style="list-style-type: none"> • Working conditions • Average salaries • An understanding of what different careers are 'like' to work in • Entry requirements • Career profession opportunities
Information about education and training provision	<ul style="list-style-type: none"> • Educational courses and training qualifications • Availability and costs
Information relating to access to education and the workplace	<ul style="list-style-type: none"> • Vacancy information • Information about commuting and public transport options • Educational funding • Entry requirements
Information relating to the support of employees in the workplace or students in education	<ul style="list-style-type: none"> • Workers' rights • Hardship funding • Support options

⁴⁶ Kumar and Arulmani (2014) ⁴⁷ It is interesting that the Cedefop (2016) report specifically states that 'LMI' is used in the report to refer to *both* information and intelligence

Information may also be more or less specific – for example, relating to specific employers or training providers; relating to job sectors or education types; or to the workforce or student population more generally. Fundamentally *what* information is considered relevant depends on the needs of individual decision-makers.

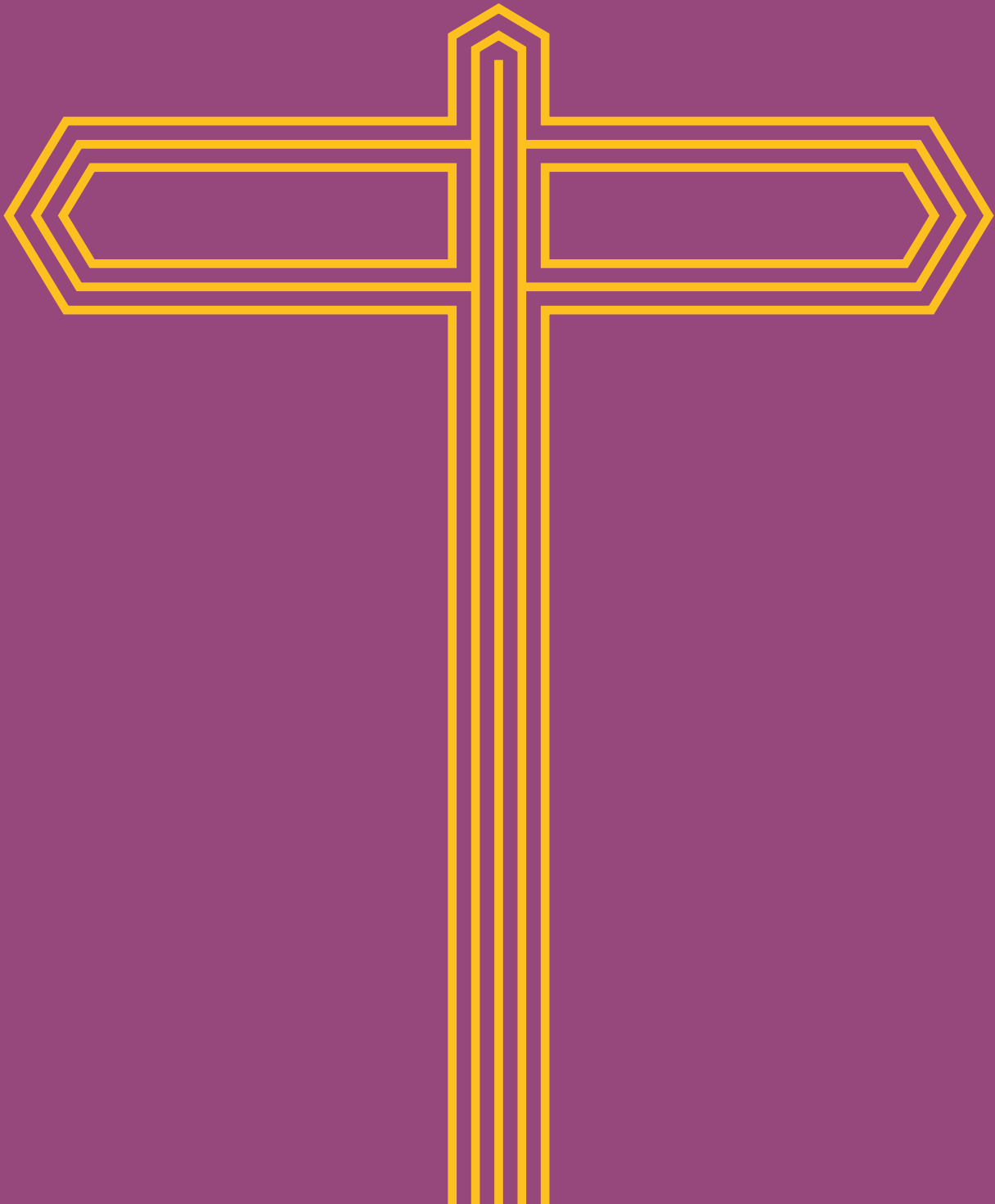


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Chapter 3

Where does LMI come from?



The sources of LMI considered in the literature differ according to the breadth of the definition of LMI being used.

With restricted definitions of LMI, producers typically include government sources and statistical data sets. Considering LMI more broadly, any information that helps to build understanding about career and job requirements, patterns and availability counts as LMI. There are also created LMI products, services, resources and materials.

There is a focus in the literature on how the internet has changed the ways in which LMI is both produced and consumed: it has resulted in LMI being much easier to access and produce. Although this has significant benefits there are also challenges, particularly in terms of the variable quality and the sheer proliferation of LMI available online, making it potentially hard to navigate.

There is a focus in the literature on how the internet has changed the ways in which LMI is both produced and consumed

Producers and sources of LMI

Sources of LMI are often cited in the literature; primarily these are sources of statistical data gathered at national or regional level. They include:⁴⁸

- **Government supported large national surveys** – for example, the Labour Force Survey and Annual Survey of Hours and Earnings in the UK. Data from these surveys is often available through national portals and websites – in the UK the Nomis website, provided by the Office for National Statistics, describes itself as offering ‘the most detailed and up-to-date UK labour market statistics from official sources’.⁴⁹
- **Public Employment Services** – including Jobcentre Plus in the UK.
- **Regional organisations and partnerships** – for example in England, through the local enterprise partnerships, and previously Regional Development Agencies.
- **Bodies representing employers or sectors** – until recently in the UK the Sector Skills Councils provided sectoral information;⁵⁰ in some industries professional associations or employer bodies also produce some information.
- **Organisations providing sources of educational data** – in the UK these include the Higher Education Statistics Agency (HESA) and the Universities and Colleges Admissions Service (UCAS).



⁴⁸ Howat and Zaidi (2010) offer a more comprehensive list, albeit a little outdated ⁴⁹ Nomis (2019) <https://www.nomisweb.co.uk> ⁵⁰ UKCES (2009)

Alongside statistical and raw data, careers information products which provide contextualised information, tools and services may be provided by:⁵¹

- **Careers services** – including national careers providers, university and college careers services and private careers practitioners and services.
- **Commercial producers** – including books and careers information products such as skills matching programmes and other career assessments.
- **Recruitment agencies** – including companies like Monster⁵² which provides some careers information as well as job searching.
- **Online forums and groups** – including LinkedIn,⁵³ which facilitates the gathering of information through networks, as well as other careers-related functionality.



In practice, funding for careers products may come from the public sector directly (say in the form of national careers websites) or indirectly (through commercial products that are sold primarily to the public sector)

Although in some of the literature the providers of LMI are typically split between 'public sector' and 'commercial' interests, Howat and Zaidi identify that this is a somewhat simplistic distinction. In practice, funding for careers products may come from the public sector directly (say in the form of national careers websites) or indirectly (through commercial products that are sold primarily to the public sector). Employers may subsidise some resources through paying to place vacancies.⁵⁴

Although careers information products are a core component of LMI provision, when we recognise that LMI includes information about specific job and educational opportunities, and information which is delivered in a more direct and personalised way, the range of producers becomes even more broad, to include:

- **Individual employers** – including information on websites and in job adverts, and information from encounters with the workplace through employment or work experience
- **Individual education providers** – including information about courses and progression routes provided on websites and in prospectuses, and through encounters such as talks and presentations
- **Individual employees** – including information shared formally (via invited talks and presentations) and informally (via social networks)
- **Careers practitioners** – including information provided through one-to-one careers services, and through presentations or careers education services
- **Friends, family, neighbours and other social contacts.**



Although last in this list, in terms of impact, information provided by social contacts (including friends and family) is likely to be some of the most important.⁵⁵

⁵¹ Again, see Howat and Zaidi (2010) for further details ⁵² Monster Worldwide (2019) www.monster.co.uk ⁵³ LinkedIn (2019) www.linkedin.com ⁵⁴ Howat and Zaidi (2010) ⁵⁵ See Chapter 7

The democratisation of LMI in the internet age

A key mechanism for accessing LMI is the internet, and several publications have considered how the internet is changing the ways that information is produced and consumed.⁵⁶ Some key impacts have been:

- **Improving availability of information** – the internet, and particularly the use of hand-held devices means that people are no longer restricted to accessing information from a library but can access information whenever they want and wherever they want. Information is therefore more accessible and, significantly, more likely to be accessed in an unmediated way – for example, without the support of a librarian or careers practitioner.
- **Changing the way information is accessed** – although LMI may be deliberately sought out online, information may also be accessed ‘unintentionally’. This could be a function of the technology; in the form of automated recommendations for websites based, for example, on browsing history. Unintentional access could also be a function of how we engage with technology, with the way we browse social media and follow links leading us to access further information.
- **Broadening and blending types of information** – websites containing LMI typically contain information in a variety of forms, combining written information with, for example, video case studies. Links to other relevant information from other sources can easily be provided – for example, in occupational information providing links to relevant educational courses and information about educational funding.
- **Integrating information with other forms of careers service** – the internet is also a means for delivery of other forms of careers services – not just information, but real-time interactions through ‘chat’ features and advice services provided through email. The internet is also a key mechanism for careers services to advertise and reach clients. Online sources of information, therefore, may link to and be integrated with other forms of careers service delivery.
- **Opening up production of information** – creating information on the internet through blogs, websites, discussion boards, social media posts and other means has also been made relatively straightforward. This has resulted in:
 - **a proliferation of information:** the ease with which users can create blogs and websites results in an online culture of ‘publish and then filter’ rather than ‘filter and then publish’;⁵⁷ as a result, information may rapidly proliferate, although this information may be of varying quality and reliability.
 - **information of diffused origin:** information can be published online by anyone relatively easily on blogs, websites and social media feeds. This has ‘blurred the distinctions between, on the one hand, the trained, public-sector, impartial careers advice, and on the other, services offered by a host of private-sector organisations’.⁵⁸
 - **potential to collectivise information:** potentially, information can be co-produced by groups of individuals; for example, several people commenting and responding to a discussion thread or through contributing to a wiki page.

The internet is changing the ways that information is produced and consumed

⁵⁶ For example, Hooley, Hutchinson and Watts (2010); Sampson *et al.* (2018) ⁵⁷ Hooley, Hutchinson and Watts (2010), 16) ⁵⁸ *ibid.*, 19

Concerns with quality: reliability and validity of LMI

Technology creates several exciting possibilities by democratising the way that information is produced and used. However, it has also created challenges, particularly in terms of how to identify relevant and reliable sources of information. These challenges relate to wider social concerns such as the debate about 'fake news'.

Reliability and validity of information are identified as concerns throughout the literature relating to LMI. In the older literature the focus was on the skills advisers need to determine the reliability and validity of information and how to interpret or present information to clients.⁵⁹ A widely cited checklist of criteria to guide practitioners in assessing the efficacy and quality of LMI was produced by Barnes and Bimrose in 2008.⁶⁰ This identifies five key questions for practitioners:

1. Who has produced the LMI?
2. How was the LMI collected?
3. How is the LMI data disaggregated and classified?
4. Is the LMI up to date?
5. Is the LMI fit for purpose?

Considering the importance placed on reliability and validity of LMI throughout the literature, arguably these concepts are easier to apply to statistical data sources than to more informal methods of data collection.

Although such lists can be helpful, LMI in the internet age creates further challenges for validity and reliability. It is well evidenced, for example, that information on the internet often poses particular challenges in terms of determining its geographic scope (which areas or countries it relates to) and determining when it was produced.⁶¹ More specific issues have been highlighted in relation to information on social media, with Sampson *et al.* identifying some specific sources of invalidity, including: intentional bias, unintentional bias, restricted range of experience, out-of-date information, popularity bias, similarity bias and context deficiency.⁶² In their work they suggest that although existing checklists for evaluating information are useful, instructing users on the specific sources of invalidity for social media-based information is also likely to be important.

Reliability and validity of information are identified as concerns throughout the literature relating to LMI

Managing and regulating LMI production

With a wide range of producers of LMI and the changes introduced by the internet, a key challenge for policymakers and practitioners is how to manage or regulate LMI provision. Relevant topics discussed in the literature include the importance of coordinating approaches to the collection and dissemination of LMI, developing single sources of high-quality information, quality standards, and supporting the digital and information literacy of the population.

⁵⁹ See Department for Education and Skills (2004) ⁶⁰ Barnes and Bimrose (2008) ⁶¹ Hooley, Hutchinson and Watts (2010, 14) ⁶² Sampson *et al.* (2018)

Coordinating LMI

At an international level, a 'major gap' has been noted 'between the collection of labour-market information and its transformation into usable learning material for career guidance'.⁶⁵ In the UK challenges have been noted in the fragmented provision of information, and the over-reliance on statistical data.⁶⁴ A recent piece of research identified at least 49 different websites in the UK providing LMI.⁶⁵ Calls to coordinate production is a common feature in the literature, with coordination happening at a number of different levels – national, local or sectoral.

At a national level, the European good practice guidelines for lifelong guidance stress the importance of promoting the 'coordination of the collection and distribution of labour market information through partnerships between key stakeholders: ministry, social partners, sector and professional associations'.⁶⁶ Additionally, given that careers services typically straddle a range of public policy objectives including educational, labour market and social equity goals,⁶⁷ coordination and partnerships between *ministries* are also likely to be important.⁶⁸ Elsewhere strong national systems for the collection and dissemination of 'core LMI' have also been identified as a feature of effective national careers systems.⁶⁹ It is likely that strong national systems for 'core LMI' bear some relation to national labour market information systems (LMIS) noted in the economic and policy literature, although the exact relationship between or overlap of the two is somewhat opaque in the literature.

The role of policy, and specifically lifelong guidance policy, in terms of supporting coordinated national systems for LMI which limit the possibility for duplication, and ensure effective dissemination has been identified as critical.⁷⁰ An interesting example of a national framework comes from Scotland, where in 2012 an LMI framework was created⁷¹ with the aims to:

1. clearly identify current LMI provision in Scotland
2. provide LMI users in Scotland with a common understanding of current provision and gaps
3. focus action to ensure LMI meets Scottish user needs.

The framework sets out definitions of key terms and three principles for dissemination of LMI. The document then identifies the roles, contributions and needs of a range of stakeholders including organisations like Jobcentre Plus,⁷² the Scottish Government,⁷³ the Scottish Funding Council,⁷⁴ the Scottish Qualifications Authority⁷⁵ and Skills Development Scotland.⁷⁶ In Scotland the investment in an LMI framework represents part of a wider commitment to a 'skills planning model' whereby regional and sectoral skills investment plans (which take account of LMI) inform careers education and guidance services, as well as education and training provision in order to streamline the connections between education, skills and employment.⁷⁷

Alongside an emphasis on coordination at a national level, coordination is also an important theme for the collection of LMI on more local levels – both by region and by sector. In Scotland this is apparent in the regional skills assessments

In the UK challenges have been noted in the fragmented provision of information, and the over-reliance on statistical data

⁶⁵ OECD (2004) ⁶⁴ UKCES (2009) ⁶⁵ The Careers & Enterprise Company (2016) ⁶⁶ ELGPN (2015, 22) ⁶⁷ Sultana (2012); see also Watts (2005) ⁶⁸ OECD (2004, 40) ⁶⁹ Hooley, Hutchinson and Watts (2010) ⁷⁰ OECD (2004); Cedefop (2016) ⁷¹ Scottish Executive (2012) ⁷² See UK Government (2019a) <https://www.gov.uk/contact-jobcentre-plus> ⁷³ See UK Government Scotland (2019) <https://www.gov.scot/work-and-skills/> ⁷⁴ See Scottish Funding Council (2019) <http://www.sfc.ac.uk/> ⁷⁵ See SQA (2019) <https://www.sqa.org.uk/sqa/70972.html> ⁷⁶ See Skills Development Scotland (2019a) <https://www.skillsdevelopmentscotland.co.uk/> – Skills Development Scotland is the lead agency responsible for Careers Information Advice and Guidance in Scotland ⁷⁷ Skills Development Scotland (2019b) <https://www.skillsdevelopmentscotland.co.uk/what-we-do/skills-planning>

and sectoral skills investment plans.⁷⁸ Previously in the UK a focus on sectoral coordination was also apparent in the development of an LMI framework for the Sector Skills Councils.^{79, 80} At a local level, partnerships between stakeholders have also been emphasised, with UKCES guidance for careers service managers recommending that 'organisations need to continue to work together to ensure career-related LMI is collected, collated, shared and used effectively.'⁸¹

Quality assurance

The development of 'single sources' of careers information (for example, the creation of a single national careers website) has been identified as good practice in the literature, as a way of reducing confusion and 'noise' in the online career context.⁸² This requires having a strong central organisation which is responsible for bringing together data from multiple sources and interpreting and managing this information so that it is accessible to multiple users. Where these sites include links to other sources of robust information then they can in effect 'serve as quality-assured signposts'.⁸³

National governments may have a role in directly supporting the development of such resources or providing a framework for online provision. An alternative approach, identified by Hooley, Hutchinson and Watts, is that the government may take a more facilitative role, aiming to 'stimulat[e] the market in order to build its capacity'.⁸⁴ Importantly if the government takes a facilitative role then they may also need to 'compensat[e] for market failure', by for example supporting the development of resources for client groups whose needs may otherwise not be met. Hooley (2018) has noted, for example, that 'online careers services are far more likely to serve high skilled workers, graduates and other relatively advantaged groups', and argues that the government has a role in monitoring the provision of services, and filling gaps where they exist.⁸⁵

One approach developed in England to support the marketplace of LMI producers has involved the creation of a national quality assured portal (and associated widget) – 'LMI for All' – which draws together core national data sets into one easy-to-use tool, allowing individuals to compare careers by salary, demand and other features.⁸⁶ The widget is designed to be embedded in a range of careers products including, potentially, national websites and other commercially produced resources. This development is internationally innovative and has been identified as an example of good practice in the literature.⁸⁷

Quality standards

Recognising that the landscape around the production of careers resources is complex, the development of quality standards for the production of information is another way to ensure quality in information products. Kitemarks come with some limitations – for example, questions about how useful they might be for end-users seeking information, and how they operate in a rapidly changing online environment.⁸⁸ However, generally the literature recognises that they can be an important component in regulating an online environment. Despite this, there is evidence that suggests standards are missing in most countries.⁸⁹ In the UK the Quality Award for Careers Resources was launched in 2014 by the Career

One approach developed in England to support the marketplace of LMI producers has involved the creation of a national quality assured portal (and associated widget) – 'LMI for All' – which draws together core national data sets into one easy-to-use tool

⁷⁸ Skills Development Scotland (2019b) ⁷⁹ Now disbanded, Sector Skills Councils were employer-led UK-wide organisations that focused on the skills and workforce development needs of different industries (or sectors). Further details can still be found online, see Federation for Industry Sector Skills and Standards (2019) <https://fiss.org/sector-skills-council-body/>

⁸⁰ UKCES (2009) ⁸¹ UKCES (2012c) ⁸² Cedefop (2016) ⁸³ Hooley, Hutchinson and Watts (2010) ⁸⁴ Hooley, Hutchinson and Watts (2010, 28) ⁸⁵ Hooley (2018, 9) ⁸⁶ LMI For All (2019) <http://www.lmiforall.org.uk/> ⁸⁷ For example, Cedefop (2016) ⁸⁸ Hooley, Hutchinson and Watts (2010) ⁸⁹ Sultana (2012)

Development Institute.⁹⁰ One example of a resource which has received this quality mark is the Career Companion website. Resources are assessed against eight criteria including currency, availability, accessibility and equality and diversity.

The need for digital and information literacy

Finally, a strong theme throughout the literature about LMI and the internet is the importance of developing digital literacy and information literacy skills in career decision-makers and the population as a whole.⁹¹ With LMI now easy to access online, individuals need to, for example, be able to consider issues such as the quality of information. Possible responses to digital and information literacy include the development of national digital literacy strategies. In careers practice, the importance of supporting clients to develop appropriate skills to enable them to access information for themselves is also a growing focus, often embedded within discussion of career management skills (CMS).⁹²

The ELGPN defines CMS as 'a range of competences which provide structured ways for individuals and groups to gather, analyse, synthesise and organise self, educational and occupational information, as well as the skills to make and implement decisions and transitions'.⁹³ In this statement the importance of individuals being able to 'gather, analyse, synthesise and organise' information is clear. The development of a focus on CMS has led to the creation of a number of CMS frameworks or 'blueprints' in different nations around the world, originating in the US and Canada.⁹⁴ Within these frameworks, a specific focus on skills surrounding information searching is evident; so, for example, the Scottish Career Management Skills Framework specifically lists the following competency 'I know how to find and evaluate information and support to help my career development'.⁹⁵

Alongside developing skills in the general population, the influence of the internet is also impacting on the specific skills needs of the careers workforce. Although this workforce could be anticipated to have reasonable information literacy skills, specific needs in terms of increasing the digital literacy of the careers workforce is identified throughout the literature.⁹⁶

With LMI now easy to access online, individuals need to, for example, be able to consider issues such as the quality of information

⁹⁰ CDI (2018) ⁹¹ Hooley, Hutchinson and Watts (2010); Sampson *et al.* (2018) ⁹² Hooley, Hutchinson and Watts (2010) ⁹³ ELGPN (2015, 21) ⁹⁴ Hooley, Watts, Sultana and Neary (2013) ⁹⁵ Skills Development Scotland (2012) ⁹⁶ Hooley, Hutchinson and Watts (2010); Kettunen, Sampson and Vuorinen (2015)

Chapter 4

Identifying and filling the gaps in LMI



The sheer number and wide-ranging nature of LMI sources, plus the breadth of what can be used as LMI, has led to a rich but chaotic LMI scene in data-rich contexts.

Furthermore, there are differences in the comparative availability of LMI sources at different scales – with national and regional data more readily available than data at more local levels. In data-poor environments, this gap can widen. Here there can be a greater preponderance of more official sources of LMI – for example, those provided by states – focusing more on the needs of the provider or labour market than on the needs of the end-user. The result can be a ‘gap’ when it comes to the needs of the end-user.

Ensuring LMI meets user need

Throughout the literature that considers features of ‘quality information’, the importance of information being ‘relevant’ to users’ needs is repeatedly identified.⁹⁷ Despite this, the literature review identified that very little research has been done into user needs. Instead, the most commonly referenced areas of need relate to research undertaken with advisers or other professionals. One very frequently cited list came from Offer; this summarises the ‘questions that guidance clients tend to ask, for which labour market data could contain the answers’:⁹⁸

- 1. Demand for labour:** involving questions like ‘how easy is it to get a job in this occupation, industry or role?’ and ‘how competitive is it?’.
- 2. Progression routes, career structure and earnings:** involving questions like ‘what are the prospects?’ and ‘where can I go from there?’.
- 3. Geographical availability:** involving questions like ‘how available is it in my (personal) travel to work area?’.
- 4. Trends:** involving questions like, ‘are opportunities increasing or decreasing?’ and ‘if I invest in getting trained, what are my chances of getting a job?’.
- 5. Transferability:** involving questions like ‘if employment in this occupation dies out, what else could I do with the training, qualification, competencies or skills?’.
- 6. Recruitment and selection methods:** involving questions like ‘where and how do people get jobs in this occupation?’.

Offer proposed testing these six areas ‘on a small sample of experienced careers advisers responsible for labour market information in different careers companies’.⁹⁹ As well as Offer’s work, there are several other empirical studies of client information needs from a careers practitioner’s perspective.¹⁰⁰ There is a

Throughout the literature that considers features of ‘quality information’, the importance of information being ‘relevant’ to users’ needs is repeatedly identified

⁹⁷ See, for example, ELGPN (2015); NCDA (2007); Tricot (2002) ⁹⁸ Offer (2001, 78) ⁹⁹ *ibid.* 78 ¹⁰⁰ Including Brown, Bimrose and Hughes (2005) and Bimrose and Orton (2005), both cited by Barnes and Bimrose (2010: 21)

high degree of commonality in these lists, with evidence of particular demand for information around future trends, local labour market information and information on progression routes.

The need for further research into the direct information requirements of end-users is identified throughout the research.¹⁰¹ Despite the lack of research, the importance of information on job openings, educational opportunities and occupational information (such as the salary, working conditions and other information about different roles) is commonly identified.¹⁰² In research with a focus on the needs of undergraduate university students in Canada¹⁰³ the information in Table 1, below, was identified as the top type of general employment information that students wanted.

TABLE 1: INFORMATION WANTED BY UNDERGRADUATE UNIVERSITY STUDENTS¹⁰⁴

Career qualifications and certification needed	91.4%
Jobs that are now available in my occupation	82.8%
Typical job salaries and benefits	80.6%
Career training needed for my occupation	72%
Potential employers in my occupation	58%
Forecasts of which jobs will be in demand in the future	54.8%
Where to get training	49.5%
Advice about how to write a resume	48.4%
Advice about how to behave in a job interview	37.6%
Career statistics	30.1%
Government grants for training or retraining	25.8%
Other	3.2%

The importance of information on job openings, educational opportunities and occupational information (such as the salary, working conditions and other information about different roles) is commonly identified

These findings are generally consistent with the suggestions that vacancy and educational information are very important to users (with these elements appearing at second, fourth and seventh in the list). Further, given that the research was undertaken with individuals already at an advanced level in their education, it could be expected that the demand for education information may be even higher in a different client group. Overall *integrated* information about career routes, which includes information about education and vacancies, appears to be very important, with a lower level of relevance assigned to statistical information and even to job forecasting (desired by only half the cohort). These findings are important because they suggest potential gaps both in terms of the type of information available and in the availability of information products that integrate this information. Indeed, in a recent review of UK careers websites, *no* websites were identified that had complete coverage of all choice topics (including career choice, job choice, qualification choice and place of learning choice).¹⁰⁵

¹⁰¹ Tricot (2002); OECD (2004) ¹⁰² See Tricot (2002); Cedefop (2016, 28) ¹⁰³ Tavakoli, Rocca and Thorngate (2010) ¹⁰⁴ Reproduced from Tavakoli, Rocca and Thorngate (2010)

¹⁰⁵ The Careers & Enterprise Company (2016)

What are the common gaps in information?

Considering the evidence of user needs, some key gaps in the data available in the UK are evident. Other developed countries with established LMIS systems are likely to face similar challenges, although the exact nature of the gaps in LMI will vary between countries according to what data is routinely collected and the frameworks provided for analysis. Within the UK the key gaps include:

- regional and local labour market information
- educational and vacancy data
- data on transferability of skills.

These areas are considered below, followed by consideration of how data could be improved.

Regional and local labour market information

Local labour market information is perhaps the most consistently identified gap in terms of LMI.¹⁰⁶ Having information on local opportunities is particularly vital when it is considered that not all individuals will be able to, or wish to, move to access a career. This may be particularly the case for adults with family commitments or young school leavers, for example.

The challenge for the availability of local labour market information is that, in many cases, existing national data sets are not of a large enough sample size to enable analysis at very local levels. Where local data sets are available, these are of varying quality and can be difficult to identify. A further notable challenge in local labour market information is that in order for it to be useful to individuals the accessibility of opportunities on a local level also needs to be considered – and it is interesting that the ‘LMI for All’ resource in the UK is looking at ways of incorporating data on commuting within the tool, as well as local information.¹⁰⁷

In practice, much local labour market information may be sourced through word-of-mouth, through job vacancy searches on a local basis and the local media. Nevertheless, policymakers should consider whether more robust and reliable data sources could be identified, and this information then included systematically into careers products.

Educational and vacancy data

The second area commonly noted as a gap is LMI which is integrated with vacancy and educational data. This gap is important because in practice questions about career development will normally relate to career progression routes and pathways. Questions such as ‘what are my chances of getting a job as a...?’ and ‘how do I become....?’ are important and it is vital that careers services should be able to respond with information about specific opportunities (both employment and educational).

The importance of integrating educational data into careers information resources is identified across the literature.¹⁰⁸ The challenge here is that educational data is often treated somewhat separately from other forms of LMI¹⁰⁹ and there can

The challenge for the availability of local labour market information is that, in many cases, existing national data sets are not of a large enough sample size to enable analysis at very local levels

¹⁰⁶ See, for example, Scottish Executive (2012); Bimrose *et al.* (2018); Barnes and Bimrose (2010), UKCES (2012a,) Leitch (2006) ¹⁰⁷ Bimrose *et al.* (2018) ¹⁰⁸ For example, Suttana (2012)

¹⁰⁹ Howat and Zaidi (2010)

be a lack of centralised sources for vacancy and educational data.¹¹⁰ In the UK particular challenges with sourcing this data and incorporating it into the national 'LMI for All'¹¹¹ resource are noted – key challenges include the fact that vacancy data coded by occupation has not been collected and provided centrally in the UK since 2012,¹¹² and that databases of educational provision are difficult to identify and do not use consistent classifications of courses.¹¹³

In practice, vacancy information can be sourced by individuals, but for relatively comprehensive coverage this normally requires consultation of multiple different vacancy sources. Educational data similarly tends to require consultation of different sources of information. Again, ways of formalising and streamlining information in these areas in order to allow systematic inclusion in careers products is a key consideration for policymakers.

Data on transferability of skills

A further issue with the available information, occasionally noted in the literature, is that information about careers options classically uses occupational classifications. In the UK classification schemes are widely used, such as the Standard Occupational Classification (SOC) scheme,¹¹⁴ and the Standard Industrial Classification (SIC) scheme.¹¹⁵ These classification schemes may not be representative of the ways that jobs actually *work*, and the classifications may not have kept pace with changes in the economy.¹¹⁶ Jobs, for example, in the private sector may be defined more by function or job level in the company than by occupation.¹¹⁷ A further limitation in the data is that for some user needs, for example individuals wishing to change career, occupational information may be less valuable than information about the workplace explaining how their skill sets might be transferrable to other roles.

A strong criticism is levelled at the use of SOC codes in a publication from CASCAID who note that grouping job roles by SOC codes, when the jobs in practice are often difficult to classify, can lead (inadvertently) to information being presented which is misleading.¹¹⁸ Alternative ways of analysing and presenting opportunities in the workplace have been identified (for example, presenting options using skill or competency maps), and questions raised about whether these would be potentially more appropriate and valuable.¹¹⁹

In practice, vacancy information can be sourced by individuals, but for relatively comprehensive coverage this normally requires consultation of multiple different vacancy sources

What can be done to address these gaps?

Potential solutions to problems of coverage of labour market information identified in the literature include options for improving national data sets, better collection of data by intermediary organisations and through partnerships, utilising expertise of end-users and practitioners, and applying technology to capitalise on information already available. Each of these approaches is summarised overleaf.

¹¹⁰The Careers & Enterprise Company (2016) ¹¹¹See LMI for All (2019) <https://www.lmiforall.org.uk/> ¹¹²Data was provided by the Department for Work and Pensions on vacancies notified to Jobcentre Plus. This was discontinued in 2012. There are commercial applications that provide vacancy analysis such as Labour Insight (Active Informatics). ¹¹³Bimrose *et al.* (2018)
¹¹⁴For more details see ONS (2019) <https://www.ons.gov.uk/methodology/classificationsandstandards/standardoccupationalclassificationsoc> ¹¹⁵For more details see UK Government (2019b) <https://www.gov.uk/government/publications/standard-industrial-classification-of-economic-activities-sic> ¹¹⁶The Careers & Enterprise Company (2016, 21) ¹¹⁷Hirsh *et al.* (1998), cited by Offer (2001, 81) ¹¹⁸Jordan and Jeffrey (2015) ¹¹⁹See Jordan and Jeffrey (2015) and Offer's (2001, 81) suggestion that 'hybrid and multidimensional maps of the world of employment' may be more appropriate than occupational segregations.



Osteoarthritis
pain relief
£8.60

Paracetamol
£1.20
£1.20
£5.50
£6.80
£8.30
£5.00
£3.50
£8.50
£4.50
£14.75
£8.50
£5.00

Clonidine

Improved and streamlined national data sets

In theory, improved labour market information could result from expanded and revised national data sets. Expanding the data collected to give enhanced coverage of the population, for example, would enable better analysis at local level. Addressing the way that data is categorised may also help with, for example, giving more granular detail about different occupations or collecting information with a skills focus alongside an occupation focus. Greater alignment of data sets, and investment in creating single sources of data on vacancies and educational options may also offer significant benefits. All of these possibilities rely on investment and potentially ongoing costly deployment of different data collection tools. Slightly less costly alternatives may involve use of different statistical techniques – such as the creation of synthetic data to provide local labour market estimates.¹²⁰ Collaboration with universities and academic research has also been identified as potentially valuable for improving the quality and quantity of information available.¹²¹

Intermediary organisations and improved partnerships working

The use of intermediary organisations such as employer bodies, or regional organisations, to collect data is a common approach. Strengthening the ability of organisations to gather data and improving partnership working between organisations is another way to improve data collection.¹²² Good practice examples noted in the literature include work by regional development agencies to produce local and regional information, and public sector organisations commissioning dedicated products from careers information suppliers.¹²³ In England the role of Local Enterprise Partnerships as sources of local labour market information is also identified.¹²⁴

Although the value of partnerships for data collection and the creation of information products is emphasised, it is important to note that even if specific resources are not created, the value of information sharing for supporting the skills and knowledge of practitioners is promoted.¹²⁵ Local arrangements for sharing information may include regular communication events, training sessions or meetings.¹²⁶

Utilising expertise from practitioners and end-users

A further option for creating data sets identified in the literature involves capitalising on the existing expertise of careers practitioners or even end-users themselves.¹²⁷ Potential in this area centres on technological innovations which allow greater scope for user-generated content and networking. Sourcing information from end-users about their experience of different careers, their experience of recruitment processes, or even salary levels is something that a range of commercial providers are exploring.¹²⁸ This includes, for example, the development of websites like 'Glassdoor'¹²⁹ that enable employees to leave reviews about their company and about their experience of recruitment processes.

Development of the internet has also led to increased potential for sharing expertise between practitioners. This may be through informal networks or more formal forums. One specific approach discussed in the literature is a 'people

Strengthening the ability of organisations to gather data and improving partnership working between organisations is another way to improve data collection

¹²⁰ Bimrose et al. (2018); The Careers & Enterprise Company (2016) ¹²¹ The Careers & Enterprise Company (2016) ¹²² UKCES (2012a) ¹²³ Howat and Zaidi (2010) ¹²⁴ The Careers & Enterprise Company (2018); UKCES (2012a) ¹²⁵ UKCES, (2012c; 2012b; 2012a) ¹²⁶ UKCES (2012b) ¹²⁷ Bimrose et al. (2018) ¹²⁸ Howat and Zaidi (2010) ¹²⁹ See Glassdoor (2019) www.glassdoor.co.uk

tagging' tool which 'tags' employees working within a service according to their expertise, allowing practitioners who have specific labour market information needs to search for and connect with other practitioners who have that expertise.¹³⁰

Utilising technology to capitalise on information

With job vacancies commonly published on the internet, several publications identify the potential to use online information about vacancies for LMI purposes. Finding ways to aggregate information about vacancies, for example through 'scraping' tools, is one innovation that is being piloted in some countries.¹³¹ Analysing 'live LMI' through information provided in job vacancy postings, such as salary, skills or qualification data, offers ways of producing 'real time' data which is potentially more accurate and representative of the current labour market.¹³² Labour Insights in the UK provides such a service.¹³³

Alongside analysis of job vacancies, use of other data sources, such as digitised CVs (often held by recruitment agencies), has been identified as a potential way to gain further insights into the relationships between careers or job roles and skills and qualifications.¹³⁴ In this respect, companies such as Monster, which holds details about both job-seekers and job adverts, are identified as potential sources of significant labour market insights in the literature.¹³⁵

A recent publication notes that the 'growing industry of data driven careers advice services ... along with the online employment search industry, has an interest in working collaboratively with the government to improve the overall data infrastructure'.¹³⁶ However, the industry raises questions about 'access to consistent directories of courses and institutions; better ontologies¹³⁷ for jobs, skills, employers and industries; and data standards for certain types of information about jobs and qualifications.'¹³⁸ This comment is significant because it identifies that, regardless of who collects data, the government has a key role in developing LMI frameworks and infrastructure in order to guide and support this collection – ensuring that the data sets 'speak' to each other and are appropriate for the nature of the labour market.

Utilising appropriate research is also likely to be important in the development of ontologies and frameworks for labour market analysis. A good example is the debate over how graduate occupations can be classified – recognising that the nature of 'graduate occupations' may be changing as the workplace changes, and that the classifications used to analyse the workplace may also need to change.¹³⁹

Analysing 'live LMI' through information provided in job vacancy postings, such as salary, skills or qualification data, offers ways of producing 'real time' data which is potentially more accurate and representative of the current labour market

¹³⁰ Barnes and Bimrose (2010) ¹³¹ Bimrose *et al.* (2018) ¹³² Jordan and Jeffrey (2015) ¹³³ See Active (2019) <https://www.activeinformatics.com/labourinsight/> ¹³⁴ The Careers & Enterprise Company (2016, 6) ¹³⁵ Howat and Zaidi (2010) ¹³⁶ The Careers & Enterprise Company (2016, 6) ¹³⁷ Complex group or collection of terms ¹³⁸ The Careers & Enterprise Company (2016, 6) ¹³⁹ For example, see Elias and Purcell (2013)

Chapter 5

Quality over quantity



For the end-user, quality wins over quantity when it comes to the availability and specificity of information – ‘more’ information does not necessarily lead to better decision-making, especially given the complexity of career decisions.

The literature suggests that some degree of mediation of information is important as this may allow greater personalisation.

‘Information overload’ or ‘choice overload’ can actually *impede* rather than assist with decision-making

LMI and the limits of rational decision-making

In Chapter 3 it was noted that an underpinning rationale of labour market policy is that improving information about the labour market will improve the ability of labour market actors to make appropriate decisions. However, the literature suggests that for individuals ‘more’ information does not necessarily improve career decision-making.¹⁴⁰ A paper from Grubb¹⁴¹ offers a particularly robust challenge to the ‘adequacy’ of careers information in decision-making based on a critique of the ‘expected utility model’ of rational decision-making. He makes five key points.

1. Individuals may not hold stable preferences.
2. It is difficult to identify a full range of alternative options.
3. Working out probabilities of success in different career paths is challenging.
4. Career pathways take place through time.
5. Individuals do not always realise when they are making career decisions.

Grubb highlights the way that the vast range of options available to an individual can place a limit on ability to make a rational decision: is it ever possible to be aware of all the workplace options available and to take account of all this information? And, indeed, is it desirable? This challenge is identified throughout the literature, with evidence that ‘information overload’ or ‘choice overload’ can actually *impede* rather than assist with decision-making.¹⁴² An additional problem is that information about options is often incomplete, incompatible or not comparable, preventing a proper assessment of choices.

Faced with a huge amount of information, the literature suggests individuals take practical steps to reduce the cognitive load of this information and simplify their decision-making.¹⁴³ Research suggests that individuals use ‘rough rules of thumb’ to discard information that is likely to be irrelevant; these might include:

¹⁴⁰The Careers & Enterprise Company (2016) ¹⁴¹Grubb (2002) ¹⁴²Yates (2014); Savard *et al.* (2005); The Careers & Enterprise Company (2016) ¹⁴³The Careers & Enterprise Company (2016); Gati and Tikotzki (1989)

- rejecting or elevating information according to the presumptions and stereotypes individuals hold about those possibilities¹⁴⁴
- rejecting options about which little is known¹⁴⁵
- focusing on information that is relevant to their goals and disregarding other information (this is termed 'goal bias').¹⁴⁶

In addition, we may favour 'hot' information, which comes from people we know, rather than 'cold' information from formal sources such as books or websites.¹⁴⁷ Again, this is a method by which we simplify the choice architecture we are faced with – judging that information that is provided through 'hot' sources is likely to be more relevant to us. As Grubb discusses, pre-emptively dismissing options means that the focus of choice is too narrow to be entirely rational.

Even if complete information was possible, Grubb identifies the challenges of using this information when making decisions about career progression since this decision involves a complex calculation around probabilities of success. If someone knows that there are many fewer opportunities in one area than another, for example, rationally should they choose the area with many more opportunities? What if the area with fewer opportunities offers work at a higher salary level? What if the area with fewer opportunities is likely to be more interesting, rewarding or a better match for their interests? As Grubb identifies, rational decision-making involves understanding the probability of achieving success *and* the expected payoff of different options. However, evidence shows that individuals find this kind of calculation very difficult. Working with probabilities is further complicated by the fact that career development happens through time. Grubb identifies that some career pathways may require lengthy training, and others may take less time. Therefore, he suggests that career decision-making 'requires the ability to trade-off between present and future consequences'.¹⁴⁸ He suggests that individuals may be more orientated to the present or the future and this will impact on their decision-making.

In the wider literature, concern with how possible it is to rationally 'plan' a career path is also evident. A striking quote from Mitchell and Krumboltz sums up the challenges:

*'Trying to place an evolving person into the changing work environment ... is like trying to hit a butterfly with a boomerang.'*¹⁴⁹

Part of the challenge of planning comes from issues of changes in personal circumstances through time, alongside changes in the labour market or educational provision. The importance of change in the workplace in particular has been receiving a great deal of attention in recent years, with a focus on the impact of globalisation and technology.¹⁵⁰ In addition, the chaos theory of careers suggests that 'chance' events can have a significant impact in career development.¹⁵¹ Other personal attributes such as how risk averse or open one is to taking opportunities, as well as simply the impact of 'chance', may impact on the availability of different career routes.

Rational decision-making involves understanding the probability of achieving success *and* the expected payoff of different options

¹⁴⁴ Grubb (2002) ¹⁴⁵ The Careers & Enterprise Company (2016) ¹⁴⁶ Brownstein (2003) cited by Yates (2014, 160) ¹⁴⁷ Greenbank and Hepworth (2008) cited by Yates, (2014, 160) ¹⁴⁸ Grubb, (2002, 7) ¹⁴⁹ Mitchell and Krumboltz (1996, 263) ¹⁵⁰ See Kumar and Arulmani (2014) ¹⁵¹ Pryor and Bright (2011)

Grubb also makes the point that individuals may not always realise when they are making career decisions, and even when they are aware, they may not understand what information they need, or understand that they have any information need at all. This may mean that individuals do not seek support with decision-making, although later they realise that they should have sought more help. Therefore, finding ways of reaching individuals and helping them to become informed, rather than expecting them to proactively seek information, may be important. Consequently, Grubb is a strong proponent of educational and social learning approaches to the delivery of careers guidance (considered in Chapter 7).

What impact does LMI have on career decision-making?

Having considered some of the criticisms of models of rational decision-making and the role of information within them, this section considers the evidence in the empirical literature about the role of information in career decision-making.

In general, identifying evidence for the role of LMI in decision-making is highly problematic. This is because isolating the role of information *only* is very difficult. Indeed, a 2010 literature review on the role and impact of LMI on labour market outcomes found *no* evidence that could be related to LMI only. Instead the review considered different delivery mechanisms, including job search assistance programmes, the internet and career counselling, suggesting that knowledge about the impact of LMI can only be 'inferred' from evaluations of these broader career programmes and tools.¹⁵²

Despite the challenges in identifying the impact of LMI on its own in career decision-making, a range of literature was identified that provides some insight into this complex area. Much of this research focuses on careers websites, sometimes with the implicit assumption that the primary purpose of a website is to provide information. The most recent literature, however, recognises that, with innovations in technology, the potential functionality of websites is changing. Websites which 'provide careers information and resources' are only one kind of careers website, with other sites providing 'automated interactions' and others 'facilitat[ing] communication and the development of networks'.¹⁵³ This recognises that websites are increasingly offering not just LMI but other kinds of functionality too. As a result, the impact of the 'informational' component of web resources is *also* increasingly difficult to isolate. Although websites are a common focus in the literature, some research has considered other forms of information intervention; for example, through information-focused presentations or through sending emails, letters and text messages.

The effectiveness of LMI websites

Savard *et al.*'s large literature review from Canada has explored the evidence for the impact of LMI in career decision-making. This review focuses specifically on the 'dissemination of LMI through the internet and computer-assisted systems'.¹⁵⁴ Considering the value of using information resources with or without support the report concludes the impact of LMI is 'virtually non-significant unless transmitted through a counsellor'.¹⁵⁵ The key evidence for why information is ineffective on its

With innovations in technology, the potential functionality of websites is changing. Websites which 'provide careers information and resources' are only one kind of careers website, with other sites providing 'automated interactions' and others 'facilitat[ing] communication and the development of networks'

¹⁵² Murray (2010, iv) ¹⁵³ Vigurs, Everitt and Staunton (2017, v) ¹⁵⁴ Savard *et al.* (2005, 5) ¹⁵⁵ Savard *et al.* (2005, 15)



own mirrors some of the critiques of Grubb and others: individuals can experience difficulties in finding appropriate information, and difficulties in processing and understanding the quantity and complexity of information.¹⁵⁶ Challenges also include evidence that individuals may ignore information that is useful to them if they do not perceive it as relevant to their interests.¹⁵⁷ Providing information with the support of a careers counsellor appears more effective, although the review identifies that there is a need for further research about what *specific* approaches and behaviours of careers counsellors are useful.

Consistent with Savard *et al.*'s report, this review identified a wide range of literature concerning specific information products – usually websites.¹⁵⁸ This literature almost always reported positive results but tended to focus on positive evaluations of the resources in terms of user satisfaction and increased awareness, rather than *impact* on decision-making. Additionally, although resources were positively received, the literature consistently notes that the impact of web resources may be limited by a lack of awareness that the products exist.¹⁵⁹ Indeed, there is some evidence in the literature that physical resources provided in a careers library continue to be valued alongside online resources.¹⁶⁰ The reasons behind this are not clear; however, it is possible that careers libraries remain important because of their visibility.

A further challenge identified in the literature is that the use of careers websites varies between individuals, with one report from Australia suggesting that female students are more likely to engage with the use of self-help tools, while their male counterparts more frequently accessed job-oriented websites.¹⁶¹ In addition, a report on the use of careers websites in Scotland found that those young people who were most at risk of not achieving a positive post-school destination were least likely to use these sites.¹⁶²

The evidence that websites provide useful information but that the 'reach' of this information is uneven within the population, suggests that websites and the LMI provided within them must be embedded within a wider range of careers provision. Additionally, Howieson and Semple¹⁶³ identify that careers websites can have an effect on 'support and advice awareness', although their impact in other areas is limited. They highlight the fact that a useful function of websites is that they can be a gateway to accessing other careers services.¹⁶⁴ This is also noted in a recent literature review in the UK focusing on careers websites specifically, which has recommended that websites should exist 'in the context of a wider offline careers support program'.¹⁶⁵

LMI interventions in bounded decisions

Despite the general findings of limited effectiveness of LMI interventions, recent UK-based research has also identified the potential value of information in situations where decisions are relatively clear and options are more 'bounded' – for example, in higher education decisions which are typically made by first selecting a course, 'and then using consistent and comparable information to rank institutions against quality and entry requirements'.¹⁶⁶ This is supported by a literature review by McNally who considered the international evidence about the value of information interventions for students making educational decisions.¹⁶⁷

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¹⁵⁶ These findings are supported elsewhere in the literature too; for example, Julien (1999) ¹⁵⁷ Also supported by a range of literature, including some of that considered in 5.1.1

¹⁵⁸ For example, Janvrin, Gary and Clem (2009). See also Vigurs, Everitt and Staunton (2017) ¹⁵⁹ For example, Janvrin, Gary and Clem, (2009); Galliot (2017) ¹⁶⁰ Howieson and Semple (2013). See also advice for schools from Hooley and Andrews (2018) which recognises the role of libraries. ¹⁶¹ Galliot (2017) ¹⁶² Howieson and Semple (2013) ¹⁶³ *ibid.* ¹⁶⁴ *ibid.* 297 ¹⁶⁵ Vigurs, Everitt and Staunton (2017, iv) ¹⁶⁶ The Careers & Enterprise Company (2016) ¹⁶⁷ McNally (2016)

These interventions include sending emails, letters or texts to students focusing on the costs and benefits of education, and information about application processes. She finds some evidence of impact for these activities, where information is well targeted and provided at the right time.¹⁶⁸

This suggests that in some situations specific information interventions can have an impact. However, even in the case of bounded decisions, McNally's research identifies that the impact of an information intervention on its own cannot be guaranteed. Barriers to the effectiveness of information include situations where students face other constraints such as competition for places, or when they are unable to adjust aspirations. There is also evidence that, as with information provided on websites, information has a greater impact on those individuals who are interested in educational progression than those who do not intend to progress.¹⁶⁹ This suggests that information provided in this way has most impact where it supports a decision that has already been made.

Integrated LMI resources in careers services

The evidence that although information interventions can be useful, they will not impact equally on all individuals, suggests that providing other forms of support alongside information is likely to be important to help individuals who need to overcome barriers, adjust expectations and consider routes that they may have already discounted. The importance of providing personal support for complex or emotional decisions is evident elsewhere in the literature. Research with students on job searching for example, has shown that although generally 80% would prefer to receive information through a computer, when job searches prove unproductive, 75% would prefer to be able to discuss their problems or frustrations in one-to-one counselling.¹⁷⁰

Providing targeted LMI interventions after an initial assessment is one potential way of ensuring information is targeted and facilitating engagement. The benefits of this approach have been identified in research from Hiebert *et al.*¹⁷¹ and Redekopp, Hiebert and Hopkins.¹⁷² In their study, clients approaching a careers service were offered an initial assessment followed by a tailored self-help LMI package (one addressed at career decision-making, or one tailored to job search). In terms of impact, clients in the project showed 'significant change in general ability to access and use LMI, knowledge about how to use LMI, skills for using LMI and taking action on the information that was accessed, and personal attributes, such as optimism about one's career future, and confidence in one's ability to manage future career transitions'.¹⁷³

In this study half of the respondents accessed the resources independently and half received assistance from a professional. The results show that in both cases information had an impact, with those who were 'assisted' showing greater improvement in all areas. However, the overall difference between the 'assisted' and independent cases was not statistically significant. Noting surprise at this finding, given the evidence elsewhere in the literature for the importance of practitioner support for LMI, the researchers suggest some potential explanations. Firstly, those who were most in need of support were likely to have been 'screened out' of the project, meaning those with complex needs and low self-

Providing other forms of support alongside information is likely to be important to help individuals who need to overcome barriers, adjust expectations and consider routes that they may have already discounted

¹⁶⁸ McNally (2016) ¹⁶⁹ *ibid.* ¹⁷⁰ Behrens and Altman (1998). This example is cited both by Offer (2001) and Savard *et al.*, (2005, 6) ¹⁷¹ Hiebert *et al.* (2011) ¹⁷² Redekopp *et al.* (2013)

¹⁷³ Hiebert *et al.* (2011, ii)

help skills were not included. Secondly, in practice *all* clients accessed a one-to-one conversation before the resources were provided – and it is likely that this supportive future-oriented conversation impacted on the motivation of the clients when accessing the resources. Lastly, the value of ongoing practitioner support may have been limited because of the structured nature of the process, which potentially constrained practitioner creativity. As a result, it is possible to conclude that the way in which these information resources were delivered (including a focused career-related conversation) impacted on the value of the information resources. The researchers conclude that ‘many clients can significantly benefit from strong resource guides if they are assigned the appropriate guide based on thorough needs assessments and oriented to the guide by practitioners.’¹⁷⁴

Evidence for the value of information when provided as part of a broader careers programme is also evident in research from Portugal, which compared the effectiveness of a single careers information session with school pupils to a six-week career intervention including a range of activities.¹⁷⁵ This research found that both interventions had an impact on career adaptability as measured by three different tests; however, much larger impacts were evident from the longer intervention. Further, the different coping styles of students impacted on the outcomes of the sessions.

These research projects show that information interventions can be highly valuable, but are most effective when embedded in wider careers service delivery.¹⁷⁶ In addition, Redekopp *et al.*'s research identified the potential value in the nature and design of the information intervention –concluding that the educational design of the resources helped users make sense of and learn from the resources.¹⁷⁷ This finding is reinforced by research from the UK on careers websites, which found limited evidence that information-focused tools can have a positive impact alone, recommended that websites are constructed for ‘effective career learning’ and that, where possible, careers websites should be embedded ‘into wider career learning activities’.¹⁷⁸

Information interventions can be highly valuable, but are most effective when embedded in wider careers service delivery

¹⁷⁴ Redekopp, Hopkins and Heibert (2013) ¹⁷⁵ Janeiro, Mota and Ribas (2014) ¹⁷⁶ See also Howieson and Semple (2013) ¹⁷⁷ Redekopp, Hopkins and Heibert (2013) ¹⁷⁸ Vigurs, Everitt and Staunton (2017, v)

Chapter 6

LMI in relation to the theory of careers education and guidance



There is some limited but useful literature about LMI in relation to the theory of careers education and guidance.

The theoretical models described in the literature offer some support for the use of LMI, careers education and careers decision-making.

Theoretical approaches

The development of theoretical approaches to understanding career decision-making is frequently traced back to the work of Frank Parsons in the early twentieth century.¹⁷⁹ Parsons is largely connected to matching approaches to guidance, which focus on 'matching' individuals to labour market opportunities. In these approaches there is a focus on assessment and using valid and reliable information. LMI is given directly to clients by careers professionals and is interpreted by the adviser with the intention of changing behaviour.

Parsons famously identified three components to effective career decisions:

1. A clear understanding of yourself, your aptitudes, abilities, interests, ambitions, resources, limitations and their causes.
2. A knowledge of the requirements and conditions of success, advantages and disadvantages, compensation, opportunities and prospects in different lines of work.
3. True reasoning on the relations of these two groups of facts.¹⁸⁰

Summarising these components: the first is about knowledge of the self; the second about knowledge of the world of work (or labour market information in its widest sense); and the third is a logical reasoning process. This framework is commonly cited as the origin of modern thinking about labour market information and career development.¹⁸¹ Parson's approach laid the groundwork for much later career theory. Trait and factor theory, for example, draws on concepts of matching models like Parsons' and combines them with 'the concepts and technology of individual differences'.¹⁸²

Trait and factor approaches tend to use career assessments to analyse a person's personality and then match people to occupations where these traits are used. Holland's theory of vocational personalities builds on these models, aiming to categorise individuals according to six different vocational 'types', which correspond with different job 'types': Realistic, Investigative, Artistic, Social, Enterprising and Conventional.¹⁸³ Despite their differences, the models of Holland, Parsons and others all fundamentally involve matching individuals to opportunities. As such they focus on importance of classification – both of individuals and of the workplace – in order to make possible the 'match' between the two.

The development of theoretical approaches to understanding career decision-making is frequently traced back to the work of Frank Parsons in the early twentieth century

¹⁷⁹Parsons (1909) ¹⁸⁰Parsons (1909, 5) ¹⁸¹For example, Grubb (2002, 3); Kumar and Arulmani (2014, 225) ¹⁸²Patton and McMahon (2006, 22) ¹⁸³Holland (1997)

Despite the wide variety of later theoretical approaches, and the challenges to notions of 'rational decision-making' summarised in the previous section, the literature suggests that matching models may have a particular appeal to policymakers. They represent an easy-to-understand model which can be implemented in a relatively cost-effective way (normally being associated with one-off career interventions or online 'matching' tests, rather than lengthier and costly interventions).¹⁸⁴

Since Parsons' work, other models of career guidance have been developed. Summaries of how the different theoretical perspectives view the process of career development and guidance are available throughout the literature. However, relatively few studies specifically consider the role of information within these theories. One exception is Walsh,¹⁸⁵ and this analysis is referenced in some of the later literature.¹⁸⁶ Walsh's original work considers a range of approaches: trait and factor, person-centred, psychodynamic, developmental, social learning, and social psychological theories (and also considers approaches led by computers).

In some of the more recent literature there is discussion of different theoretical approaches. Typically, two approaches are emphasised, each of which requires different ways of using information:

- **humanistic and person-centred approaches** (e.g. Rogers, Egan)¹⁸⁷ – these approaches focus on facilitating client choice, through the development of a supportive relationship characterised by genuineness, unconditional positive regard and empathy. The locus of control remains with the client. The careers professional¹⁸⁸ holds careers information but to a large extent this is not directly present in the guidance process.¹⁸⁹
- **social learning theories** (e.g. Krumboltz)¹⁹⁰ – these approaches focus on facilitating a process of career exploration and learning. LMI is used as part of a learning process. This may include use of quizzes, etc. in group sessions, or use of LMI in individual sessions to challenge misconceptions, stimulate exploration and develop decision-making skills.¹⁹¹

In contrast with matching models, these two more recent approaches identify quite different approaches to giving information, and different roles for the careers professional. In matching models, the professional is the 'expert' and provides and interprets information directly; in humanistic models the professional seeks not to adopt an 'expert' role, but focuses on facilitating the client's own exploration, holding back from providing too much information directly; and in social learning models the professional has more of an educative role, focusing on providing information and identifying opportunities to assist clients with their learning.

It is also important to note that the way in which information is conceptualised differs between these theories. The matching approach could be said to support the most traditional definition of labour market information – individuals are matched to labour market opportunities. In humanistic approaches information

Matching models may have a particular appeal to policymakers. They represent an easy-to-understand model which can be implemented in a relatively cost-effective way

¹⁸⁴ Bimrose (2006) ¹⁸⁵ Walsh (1990, 264–8) ¹⁸⁶ For example, Attwell and Bimrose (2017) and Bimrose *et al.* (2006) ¹⁸⁷ Rogers (1961); Egan (1994) ¹⁸⁸ In humanistic approaches the word 'adviser' may be substituted with 'counsellor' representing the different conceptualisation of the role of the professional in the relationship. ¹⁸⁹ Attwell and Bimrose, (2017); Walsh (1990)

¹⁹⁰ Krumboltz, Mitchell and Jones (1976); Mitchell and Krumboltz (1996) ¹⁹¹ Attwell and Bimrose (2017); Walsh (1990)

provision is guided by the needs of the individual; as a result it is possible that information will be given relevant to a wide range of needs. It is also likely that information will be provided in the form of signposts to sources of information rather than information itself, as the focus is on enabling and motivating the client in their own development. In learning theory-based approaches information is likely to be conceived very broadly, with a focus on how knowledge may be developed through a range of different sources, including personal experience.

In contemporary careers guidance practice the influence of humanistic and learning theories are evident. In particular, several recent publications on career coaching emphasise humanistic approaches in one-to-one guidance, and there is a growing focus on careers education which draws on the literature relating to social learning theories. This issue will be expanded on in Chapter 8 where good practice is considered.

Decision-making styles

As well as the theoretical literature around career decision-making and careers guidance generally, some research has considered the different ways that individuals may make career decisions, and what this might mean for practice. One example of this comes from a large review of the effectiveness of careers guidance practice from Bimrose, Barnes and Hughes:

*'A four-fold typology of career decision making styles has emerged, strongly, from the data. The extent to which individuals espouse an evaluative, strategic, aspirational or opportunistic approach to making decisions about their career progression is crucial to understanding the particular types of support required from guidance practice. This is because different preferences for making decisions appear to relate to various dimensions of practice (like the extent to which action plans are seen as relevant).'*¹⁹²

Of the four decision-making styles identified, people with a strategic style are identified as having a particular need for information, given that this style focuses on 'a rational appraisal of information as the basis for action' meaning that guidance services for these individuals 'should be objective and deliver high quality information'.¹⁹³ The importance of information is less pronounced in other decision-making styles where there may be more of a focus on personal support and emotional components of decision-making. Julien identifies similar impacts of different decision-making styles on the needs of different individuals, identifying the difference in information needs between 'rational', 'intuitive' and 'dependent' decision-makers.¹⁹⁴ Rational decision-makers are more likely to actively seek information, with intuitive decision-makers more likely to consider self-awareness and emotional factors and dependent decision-makers more passive, looking for help with decision-making from other people such as parents or professionals. This research also identified some evidence of gender differences in decision-making styles with the suggestion that self-knowledge is more important to girls than it is to boys.

In contemporary careers guidance practice the influence of humanistic and learning theories are evident

¹⁹² Bimrose, Barnes and Hughes (2008, vi) ¹⁹³ *ibid.* (39 and 70) ¹⁹⁴ Julien (1999)

Structural and critical approaches

One set of theories which is important when considering the labour market, but which are not discussed to any extent in relation to information, are Roberts' opportunity structure theory and Hodkinson and Sparkes' Careership theory.¹⁹⁵ Perhaps the lack of focus on these areas is because these theories focus more on career development than career guidance. These theories are worth considering because of the different way they conceive of choice in relation to the labour market. Rather than focusing on the importance of personal decision-making, these theories highlight the limitations of personal choice – identifying that, in reality, decisions about jobs are often taken on the basis of a person's 'horizons for action'¹⁹⁶ including what opportunities are actually available at any one time and a person's social and cultural background.

Thinking through the implications of these theories for LMI raises two key issues. One is that information about what opportunities are immediately available within a specific area is likely to be a key factor in decision-making. In practice this may mean that users particularly value information sources relating to current opportunities which is searchable by location.

Another implication is that these theories recognise there may be limitations to choice depending on social background – and 'what people like me' do. The focus on social inequality and the way that these inequalities get replicated and persist has influenced more critical approaches to careers guidance, including a growing body of work on social justice.¹⁹⁷ In these approaches, LMI offers a key source of information about potential inequalities; for example, salary and occupational data analysed by gender, ethnic origin, social class or geographical location. This opens the possibility for LMI to be used by professionals critically – for example, to seek to challenge or address inequalities in the workplace, or to advocate on behalf of specific clients, or to work with clients to help them challenge inequalities themselves.

The focus on social inequality and the way that these inequalities get replicated and persist has influenced more critical approaches to careers guidance, including a growing body of work on social justice

Models of service design

Alongside consideration of broad theoretical schools of thought the literature also occasionally references two other specific models that are often used in the design of careers education and guidance services: the DOTS model,¹⁹⁸ and the Cognitive Information Processing (CIP) approach.¹⁹⁹ The DOTS model is popular in the design and delivery of careers education. It involves a series of learning outcomes for guidance and education, including opportunity awareness, self-awareness, decision-making skills and skills for making transitions. LMI is particularly important in terms of 'opportunity awareness'; however, advocates of the DOTS model are clear that information should be thought of as *what* people learn, with the process of learning somewhat more complex than simply accessing information.²⁰⁰

¹⁹⁵ Roberts (1977); Hodkinson and Sparkes (1997) ¹⁹⁶Hodkinson and Sparkes (1997) ¹⁹⁷For example, see Irving and Malik (2005) and Hooley, Sultana and Thomsen (2018)

¹⁹⁸DOTS refers to Decision learning; Opportunity awareness; Transition learning; and Self-awareness ¹⁹⁹Both are referenced by Cedefop (2016), for example ²⁰⁰Law (1999)

The CIP approach is particularly used in the design of careers services and is based on the idea that different individuals have different needs at different points in the decision-making process. Within the CIP model careers provision is guided by an individual's 'readiness' for decision-making', with services screening clients and then signposting them to appropriate services or resources. These may include self-help information sources, particularly in those cases where an individual is at a late stage of decision-making and has identified the path they want to follow but needs further information about this pathway. It may include one-to-one support where an individual needs more help.²⁰¹

²⁰¹Sampson *et al.* (2004)

Chapter 7

Good practice for using LMI in careers services



When considering good practice at the level of individual careers services, the importance of a strategic approach is clear. Such an approach recognises the range of complementary ways in which individuals can access and use information.

Careers professionals need to be appropriately skilled in the use and mediation of LMI and keep their knowledge up to date – LMI is best thought about as ‘how individuals can become informed’ rather than ‘products’ or ‘items’ of information. Consideration of pedagogy and integration into careers service delivery are important.

Effective service delivery requires the use of multiple services or channels to accommodate the different needs of individuals

Blended guidance

Central to the recent literature on LMI and careers services, is a recognition that effective service delivery requires the use of multiple services or channels to accommodate the different needs of individuals. However, these multiple forms of delivery also require strong leadership and strategic direction to ensure that they are provided as part of a coherent approach. Hooley and colleagues, for example, have proposed models of ‘blended’ or ‘integrated’ services which blend onsite and online delivery.²⁰² Drawing on models of ‘blended learning’ they propose several different approaches to blended guidance across different dimensions: professional vs client-led services, and primarily face-to-face vs online.²⁰³

Whatever exact model is pursued, blended models emphasise the importance of coherent design and clear systems and processes. Specifically in terms of LMI, good practice guidelines for careers service managers have also stressed the importance of coherent policy and service models with a clear vision and strategy and well-designed systems and processes.²⁰⁴ The importance of strong leadership is also emphasised in the English schools context, where good practice is identified as having a careers leader who can coordinate services within a school, including ensuring consistent approaches to collecting and disseminating information in liaison with others (for example, school librarian, subject teachers).²⁰⁵

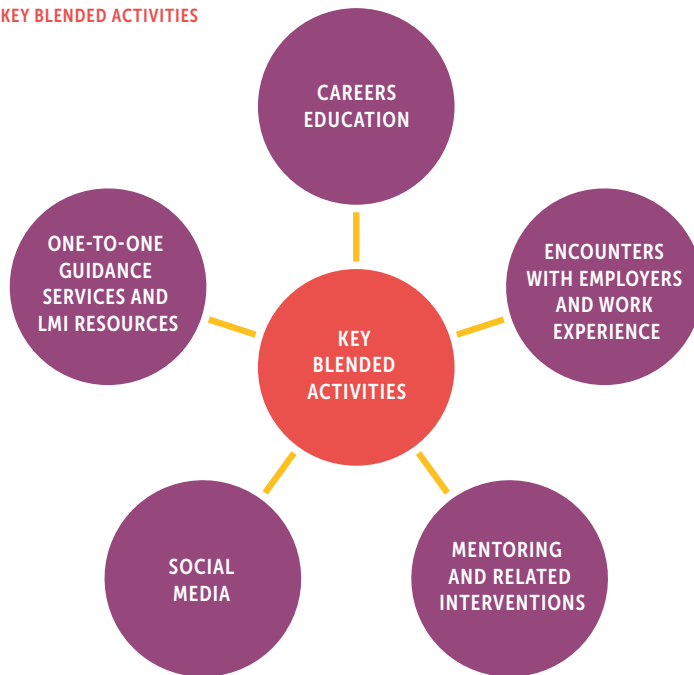
Blended models of guidance also draw explicitly on pedagogical models and Bakke, Haug and Hooley have suggested that it is useful to think in terms of ‘instructional design’.²⁰⁶ This is to take a view of careers services as learning services. As a result, it is important to consider how to design services to enable individuals to become *informed* about the working world rather than about how

²⁰² See, for example, Hooley, Shepherd and Dodd (2015); Bakke, Haug and Hooley (2018) ²⁰³ Hooley, Shepherd and Dodd (2015) ²⁰⁴ UKCES (2012a) ²⁰⁵ The Careers & Enterprise Company (2018); Hooley and Andrews (2018) ²⁰⁶ Bakke, Haug and Hooley (2018)

they access *information*. This moves from conceptualising information primarily not as a product but as a process (of becoming informed), involving several stages or activities. It also involves thinking about careers practitioners as educators and facilitators. Critical to effective approaches to LMI in service design, is a need to ensure that user requirements are well understood, which involves regularly gathering client input and feedback.²⁰⁷

In terms of what might be delivered through a 'blend' of activities which assist individuals to become 'informed', five key activities are explored below.

FIGURE 2: KEY BLENDED ACTIVITIES



Critical to effective approaches to LMI in service design, is a need to ensure that user requirements are well understood

Careers education

Careers education programmes are recognised throughout the literature as an important means of assisting individuals to become informed about the working world.²⁰⁸ Education approaches are also often identified as important in terms of assisting clients to develop information literacy and digital literacy skills, as part of developing Career Management Skills more broadly. Careers education in schools particularly is a means of helping young people develop useful skills in accessing and interpreting information which will help them in later life. Careers education may be delivered as a curriculum subject in itself or it may be infused in other subjects.²⁰⁹ In the UK context, the Gatsby benchmarks for English schools specifically provide guidance that students should be 'taught how to find and process information from Year 7 [age 11/12] upwards'.²¹⁰ In some cases, and in response to evidence that children start to develop their career ideas at an early age, primary schools and even early education and childcare providers are also being encouraged to engage in careers education – for example the Scottish Career Education Standard explicitly covers these groups.²¹¹

²⁰⁷ Tricot (2002) ²⁰⁸ ELGPN (2015); Cedefop (2016) ²⁰⁹ Cedefop (2016) ²¹⁰ The Careers & Enterprise Company (2018, 8) ²¹¹ Education Scotland (2015)

Careers education may help build confidence and motivation of learners, as well as develop skills in sourcing and interpreting information. Education programmes which embed careers research and careers exploration are identified as particularly beneficial.²¹² Education can also introduce and help to define key terminology relating to the labour market, providing the underpinning knowledge to help understand and interpret LMI. Students can learn to critique careers and labour market information and labour market structures.²¹³

Encounters with employers and work experience

Encounters with employers and work experience are important means by which individuals may get first-hand experience and knowledge of the workplace. Hooley is clear about the value of these sources suggesting that there are four key approaches through which individuals can learn about the labour market:²¹⁴

1. The presentation of labour market information.
2. The use of employer encounters to stimulate career learning.
3. Fostering of work experience to build understanding of the workplace and employability skills.
4. Engaging people with entrepreneurship and self-employment through enterprise learning initiatives.

The literature concerned with LMI consistently identifies the importance of work experience and employer engagement (although these areas are rarely covered in-depth). A recent UK Commission for Employment and Skills (UKCES) report on LMI describes the 'complementary area of employer involvement in career guidance'.²¹⁵ Tricot, when considering occupational information, notes the importance of 'fostering direct and guided contact (preparation, execution) with the world of work through internships and visits'.²¹⁶ 'Access to experiential and non-experiential forms of careers information' is also noted by the European Lifelong Policy Guidance Network (ELGPN).²¹⁷ And, in the UK, the Gatsby benchmarks for good practice in LMI and careers information in English Schools, note 'encounters with employers and experiences of workplaces should provide opportunities for students to gain information first hand'.²¹⁸

Experiences of the workplace are important because of the evidence that personalised and 'hot' sources of information are likely to be highly impactful.²¹⁹ Further, workplace experience offers potentially richer learning than may be possible through printed information sources – including learning about a broad range of competencies important in a workplace, the social norms of workplaces and allowing individuals to connect with individual workers.²²⁰ Through interacting with a workplace, individuals also potentially learn about themselves. Given that print-based information is available widely, and workplace experience may be time-consuming to source and undertake, workplace experience may be viewed as a 'next-step' after accessing more conventional sources of information, enabling an individual to see 'the personal significance of things that have been learned by reading or in the classroom'.²²¹

Experiences of the workplace are important because of the evidence that personalised and 'hot' sources of information are likely to be highly impactful

²¹² Hooley and Andrews (2018); see also Cedefop (2016) ²¹³ Hooley and Andrews (2018) ²¹⁴ Hooley (2018) ²¹⁵ UKCES (2012b, 8) ²¹⁶ Tricot (2002, 2) ²¹⁷ ELGPN (2015, 22) ²¹⁸ The Careers & Enterprise Company (2018, 8); see also The Careers & Enterprise Company (2016) ²¹⁹ See Chapter 5 ²²⁰ Grubb (2002, 18) ²²¹ OECD (2004, 40)

Mentoring and related interventions

The recognition that 'hot' information from people we know is more likely to have impact than information from formal sources also emphasises the importance of engaging with a decision-maker's wider social context. This may include involving parents, peers, colleagues and others. Potentially engaging with wider social contexts is complex – using both mechanisms to try and improve the knowledge of key social influencers (where this may be partial or lacking), and also utilising the existing knowledge of individuals in the wider social environment to help support other users. Engagement with wider social networks is often identified as an area for development in the literature. The OECD, for example, states that 'often career information systems [...] make little use of networks of community members such as employers or the alumni of educational institutions.'²²² This mirrors the findings of a recent UK report which identifies a gap for information products which integrate well into an individual's wider information context (for example, considering other sources of information such as careers advisers, teachers and parents).²²³

One approach that is identified several times in the literature as potentially an important means of delivering information is the provision of mentoring schemes, including peer mentoring and employer mentoring.²²⁴ Effective mentoring relationships may involve a great deal of different kinds of support, including the provision of information.²²⁵ Despite this, the provision of information has been identified as potentially one of the weakest areas of mentoring provision, with a recent report noting that mentors 'may require knowledge of specialist sources and information which may be outside of the mentor's existing knowledge base'.²²⁶ Therefore ensuring mentors are appropriately trained and supported, to allow them to be suitably informed, is important when designing a mentoring scheme.²²⁷ Given that careers practitioners hold specialist expertise in information, and given that this is an identified area of weakness for many mentors, there has been some suggestion that careers professionals could and should have a role in supporting mentoring schemes.²²⁸

Alongside formal and informal mentoring relationships, the importance of parents in the career choices of young people has also been consistently identified in the literature. One example is the Gatsby guidelines for English schools, which have stressed the importance of providing parents with careers and labour market information.²²⁹ The guidelines also give practical examples of how this might be done, including using social media to reach parents and promoting resources on school websites and through parents' evenings. It is also recognised throughout the literature that engaging parents can be challenging, and, therefore, Hooley and Andrews suggest it is important to 'think creatively about involving parents'.²³⁰

Social media

With the recognition of the value of social media as a potential source of information, a small but growing body of work considers how careers services and professionals may engage with social media. Sampson *et al.*, for example, suggest that 'careers practitioners need to expand their professional role to include active participation in social media as part of service delivery'.²³¹ This may include, for example, participating in discussion threads or publishing their own resources. These kinds of interventions help to 'provide valid information, address

Alongside formal and informal mentoring relationships, the importance of parents in the career choices of young people has also been consistently identified in the literature

²²² OECD (2004, 40) ²²³ The Careers & Enterprise Company (2016) ²²⁴ For example, Grubb (2002) ²²⁵ Hooley, Hutchinson and Neary (2016) ²²⁶ *ibid.* 38 ²²⁷ Hooley (2016) ²²⁸ Blissett *et al.* (2011) ²²⁹ The Careers & Enterprise Company (2018, 8) ²³⁰ Hooley and Andrews (2018, 40) ²³¹ Sampson *et al.* (2018, 130)

misinformation ... and refer individuals to sources of valid career information and practitioner-supported career services when more assistance is needed.²³²

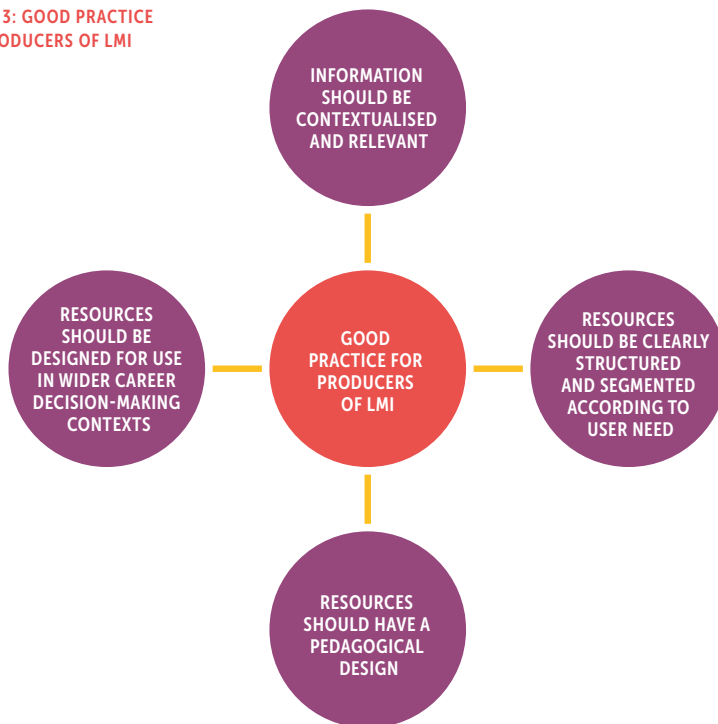
One-to-one guidance services and LMI resources

Alongside the services noted above, key features of blended approaches to guidance will include stand-alone careers and LMI resources, and one-to-one careers services. These important areas are considered in separate sections below.

Good practice for producers of LMI resources

LMI products are an essential part of careers service delivery. They may be produced by careers services themselves, or by other public or private sector bodies. There is a need, of course, to ensure that information is up to date, reliable and takes consideration of equality and diversity. A range of guidelines for the content and structure of materials is evident in the literature.²³³ Four key themes for producers are described in Figure 3 below.

FIGURE 3: GOOD PRACTICE FOR PRODUCERS OF LMI



Labour market information which is statistical, or related to the needs of sectors rather than individuals, has been identified as some of the 'least useful' LMI

Information should be contextualised and relevant

Labour market information which is statistical, or related to the needs of sectors rather than individuals, has been identified as some of the 'least useful' LMI.²³⁴ In addition, personalised information in the form of 'inspiration' has been identified as some of the most useful.²³⁵ This finding is representative of an ongoing theme in the literature around the importance of contextualising or interpreting information so that it is relevant to the needs of individuals. In practice this may mean interpreting statistical data so that it is clear what it means in terms of career pathways, for

²³² Sampson *et al.* (2018: 31) ²³³ Tricot (2002); NCD (2007); The Careers & Enterprise Company (2018) ²³⁴ Barnes and Bimrose (2010) ²³⁵ The Careers & Enterprise Company (2016)

example. Other approaches may involve blending types of information so that statistical information is presented 'simultaneously with occupational profiles, work conditions and context'.²³⁶ Bringing information to life through the use of illustrative examples, interactive elements, audio-visual information or other means is also identified as good practice.²³⁷ The use of case studies is often noted of particular value, as they can provide more 'qualitative and detailed material' and aim to 'provide an engaging 'taste' of an industry or job in contrast with some other forms of LMI.²³⁸

Information should be clearly structured and segmented by need

The importance of ensuring that individuals are quickly and effectively able to identify the information they need is vital, given the evidence that large quantities of information available may feel overwhelming to individuals, result in confusion and actually impede decision-making.²³⁹ Interestingly, research focusing on practitioner needs has demonstrated that practitioners can also risk feeling overwhelmed, suggesting that well segmented information resources are important for all users.²⁴⁰

Key to ensuring that individuals are not overwhelmed by information is the need to present information according to different user needs. A common approach is to segment information by occupational interest – for example, in databases of different occupational profiles – and some guidelines specific to what should be included in occupational profiles have been developed.²⁴¹ However, information needs of individuals are diverse and enabling different ways of allowing individuals to search for information is important. As Tricot identifies, this may include considering the different questions users might have that prompt them to access a website and the different kinds of information-seeking tasks or behaviour they may exhibit (for example, are they browsing, collecting, exploring or seeking specific information?).²⁴² Segmentation may also include consideration of the different user needs depending on their educational stage (for school pupils) or the stage of their decision-making process.²⁴³ The design of websites may also need to take account of different decision-making styles.²⁴⁴

Resources should have a pedagogical design

Another key element in designing LMI products is the importance of maximising the potential for users to *learn from* the materials and *act upon* them. There should be a focus on ensuring that materials have a 'pedagogical' design – that is, they facilitate processes of self-reflection and learning. Recent research from the UK has reiterated that career websites should be constructed for 'effective career learning'.²⁴⁵ The research identified that websites providing information alone were of limited effectiveness but websites which involve automated interactions (e.g. online games or self-assessment activities) were helpful to individuals in making meaning from LMI. Significantly, several guidelines recommend that information resources 'help users identify their own needs and to ask themselves questions'.²⁴⁶

Resources should be designed for use in wider career decision-making contexts

Connecting LMI resources to the wider context for career decision-making and careers service delivery is consistently identified as important in the literature. Recent UK research has suggested that, where possible, careers websites should be

The research identified that websites providing information alone were of limited effectiveness but websites which involve automated interactions (e.g. online games or self-assessment activities) were helpful to individuals in making meaning from LMI

²³⁶ Cedefop (2016, 12) ²³⁷ UKCES (2012a) ²³⁸ Howat and Zaidi (2010, 33) ²³⁹ Savard et al., (2005); Yates (2014); The Careers & Enterprise Company (2016) ²⁴⁰ UKCES (2012b, 14) ²⁴¹ Such as those produced by the NCDA (2007) ²⁴² Tricot (2002) ²⁴³ Tricot (2002) ²⁴⁴ Gati and Tikotzki (1989) ²⁴⁵ Vigurs, Everitt and Staunton (2017) ²⁴⁶ ELGPN, (2015, 21), with a very similar recommendation apparent in Tricot (2002)

embedded into wider career programmes which include the provision of learning activities.²⁴⁷ This could involve connecting LMI resources to other forms of support, including one-to-one careers services. It should ensure that LMI connects with experiential forms of learning – the OECD notes that ‘often career information systems fail to systematically allow people to experience work or new educational settings.’²⁴⁸ A similar recommendation is noted in the NCDA guidelines for the production of information, which state that publications should list opportunities for a range of work experience options, as well as school-related activities and programmes, clubs and other activities.²⁴⁹ The NCDA also states that ‘publishers are encouraged to give sufficient attention to this heading because these career-related possibilities can be acted on immediately and thus have high motivational value’.

Using the full potential of online delivery for the purposes of career learning, and finding ways of integrating within wider careers services, clearly requires further consideration. The OECD noted in 2004 that ‘web-based career information systems are often nothing more than electronic versions of print-based material. This fails to make use of the potential of ICT-based systems to provide careers information in far more interesting, flexible and intuitive ways’.²⁵⁰ Although there has been a great deal of development in terms of careers websites since 2004, guarding against treating websites as simply repositories of information, and capitalising on the potential of technology for integrating web-based provision with other forms of careers service, remains important.

The OECD noted in 2004 that ‘web-based career information systems are often nothing more than electronic versions of print-based material. This fails to make use of the potential of ICT-based systems to provide careers information in far more interesting, flexible and intuitive ways’

Good practice for one-to-one careers services

Recommendations for good practice for careers practitioners when using information in one-to-one guidance is evident throughout the literature. Three key areas are considered in Figure 4, and discussed in more detail below.

FIGURE 4: GOOD PRACTICE FOR ONE-TO-ONE CAREERS SERVICES



²⁴⁷Vigurs, Everitt and Staunton (2017, v) ²⁴⁸OECD (2004, 40) ²⁴⁹NCDA (2007) ²⁵⁰OECD (2004, 41)



How to use information in guidance

The literature targeted at practitioners addresses to some extent how information should be embedded in the process of delivering careers advice and guidance.

Key principles include:

- maintain caution when delivering information directly to a client
- use information indirectly to help support the process of guidance
- explore a client's situation adequately before providing information
- use information carefully and ensure it is purposeful
- facilitate a client to access information for themselves, except where information needs are clear and specific
- provide information tentatively, being aware that it can be challenging to a client
- ensure information is given in a way which is clear and understandable to the client.

These areas are considered in more detail below.

The majority of guidance to practitioners emphasises *caution* when delivering information.²⁵¹ It is important to deliver information only when a client's needs have been adequately explored. In the National Institute for Careers Education (NICE) competence standards for careers practitioners, the competency for 'career assessment and information' explicitly states that assessment should always come before information giving.²⁵²

Even when a client approaches a practitioner with what seems like a straightforward information request, the importance of taking time to understand needs is also emphasised:

*The request is, however, rarely the whole story. We can agree to meet their information needs, ideally enabling them to research and make sense of the information themselves. However, because we know that information alone is usually insufficient to navigate the decision, we also offer to take a step back and explore their story to see if they have other needs.*²⁵³

This statement makes it clear that individuals' needs for information are rarely straightforward. Even when a client clearly identifies an information need, behind that need may be a much greater set of questions – for example, 'I want some information about putting together a CV' might appear to be a direct request for information but behind the question may be a whole range of other needs in terms of where and how to look for jobs, and how to put together job applications. Such a question may also be stimulated by a wish to change career direction, or changes in personal circumstances such as redundancy. Gathering more information about the background of someone's enquiry enables the careers practitioner to make a more complete assessment of need and identify the best way(s) to meet those needs.

A particularly instructive statement from Savickas is that 'one of the best ways to determine the wisdom of a specific career choice is to assess the amount of information an individual has collected about that choice.'²⁵⁴ That is, by asking

Even when a client clearly identifies an information need, behind that need may be a much greater set of questions

²⁵¹ Attwell and Bimrose (2017); Yates (2014); Hambly and Bomford (2018); Kumar and Arulmani (2014) ²⁵² Schiersmann et al. (2016, 39) ²⁵³ Hambly and Bomford (2018) ²⁵⁴ Savickas (2001, 61), cited by Savard et al. (2005, 16)

someone what they already know and how they have already researched their options, the careers professional can assess how prepared and motivated they are. Yates expands on this, stating that 'arguably the most valuable [...] way to apply your knowledge [...] is to use it to structure your intervention; it can allow you to push where you need to push and leave things when there is no need to pursue; and it can help you decide whether it is likely to be useful to a client to think about alternatives, do further research or spend more time honing their skills'. Importantly she notes 'you can do all this without telling your client a single thing'.²⁵⁵

Although giving information is potentially useful, the literature identifies several considerations in terms of what information to give and how to give it. At a basic level ensuring that information is reliable, up-to-date and impartial is central to all good practice guidance on working with information.²⁵⁶ The importance of delivering information in a way which is clear, jargon-free, specific and positive is also noted.²⁵⁷ Checking client understanding of information given and providing written back-up of key points are also identified as important.²⁵⁸ Equally significant is the need to ensure that information given is appropriate to the client and their needs. A publication from UKCES exploring good practice in information suggests that before delivering information advisers need to ask themselves:²⁵⁹

- What is going to be meaningful to the individual?
- How am I hoping this information/intelligence will help them in making choices?
- How might it raise aspirations, challenge stereotypes, increase job knowledge and widen career horizons?

This set of questions is important because it recognises that not *all* information is going to be useful unless it is meaningful and helpful to a client.²⁶⁰ At a basic level, considering meaningful information will involve using appropriate information and resources for different clients according to age and ability.²⁶¹ It may also depend on the stage of someone's decision-making, their confidence and other personal and emotional factors.

Instead of providing information directly, it is also possible for advisers to signpost and support clients to access information for themselves. In the literature where 'giving information' is described it is often unclear exactly whether the information given is direct information or is actually signposting information sources.²⁶² Supporting clients to access information themselves is generally recognised as good practice, allowing them to take active ownership of their career decision and to develop their own information literacy skills and abilities. A further option for a practitioner in providing information is to access an information resource together with a client in a careers session: here the practitioner can demonstrate how to access the resource and help a client to interpret the resource for themselves.²⁶³

Whether information is directly given or a client is supported to access information themselves will depend on the nature of the information need. Although in general facilitating access of a user to information is good practice, in some cases where the adviser holds knowledge which would be useful to the client, 'giving' this information directly can be useful. This is particularly the case where an individual

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²⁵⁵ Yates (2014, 162) ²⁵⁶ Attwell and Bimrose (2017) ²⁵⁷ *ibid.* ²⁵⁸ *ibid.* ²⁵⁹ UKCES (2012b, 10) ²⁶⁰ The importance of meaningful information is identified elsewhere too, including Attwell and Bimrose (2017) ²⁶¹ Attwell and Bimrose (2017) ²⁶² Yates (2014) for example, citing Bimrose and Barnes (2006) suggests that when clients report being given information in careers sessions, this has normally consisted of being given signposts to information rather than information itself. ²⁶³ Hambly and Bomford (2018)

holds partial, incorrect or out-of-date information and is basing their career ideas upon such misconceptions. Where the practitioner notices this, correcting or challenging the inaccuracy is important. Indeed, there is some suggestion in the literature that information giving more generally may be 'regarded as a type of challenging [...] because information giving helps clients to develop new perspectives on problems... It can also correct misunderstanding.'²⁶⁴ 'Challenging' is a word that is often associated with information; however, in some cases, for example when information is used to demonstrate that a career ambition is not attainable, LMI may even be 'shocking'.²⁶⁵ Because of this association of information giving with challenge and aspiration-raising, Bimrose *et al.* contend that professional use of information is a 'higher level practitioner skill'.²⁶⁶

Managing the sometimes challenging nature of information means that information 'needs to be used sensitively' and the practitioner will 'need to understand how to help the client handle the disequilibrium that comes with the information and interpret its meaning for their own situation'.²⁶⁷ Understanding the relationship between the client and practitioner is also likely to be important – Is the client ready to receive information? How might they react to the information given? A specific approach to managing the process of information-giving in a way that is supportive of the client is given by Hambly and Bomford. Drawing on an approach from motivational interviewing which outlines an 'elicit, inform, elicit' approach,²⁶⁸ they identify three stages to information-giving:

1. Find out what the client already knows and what they think they need to know.
2. Fill the gaps in their knowledge, being tentative rather than directive.
3. Find out what the information means for the client and their next steps.

Hambly and Bomford also suggest that practitioners should ask for consent to share information and do so carefully and tentatively.²⁶⁹ A further practical suggestion given for delivering challenging information is accessing information together (via a website for example), and then for the practitioner to depersonalise the information by identifying 'this website says...' rather than challenging directly.²⁷⁰

Skills and capacities needed to work with information

Considering the potential ways that information may be used by advisers, the literature identifies several important skills that advisers need, including:

- the ability to recognise limits to their own knowledge
- a strong understanding of LMI relevant to their 'core' client group
- research skills in order to identify LMI relevant to areas outside of their core expertise
- digital literacy, in recognition that online environments are a major source of LMI
- ability to work with LMI with clients.

In addition, practitioners should be aware of the more detailed skills and competencies lists provided by professional bodies.

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²⁶⁴Bimrose *et al.* (2006, 94) ²⁶⁵*ibid.* 94 ²⁶⁶*ibid.* 94 ²⁶⁷*ibid.* 94 ²⁶⁸See Beven (2014) ²⁶⁹See also Yates (2014) ²⁷⁰Hambly and Bomford (2018)

- being able to identify training needs and undertaking appropriate CPD
- additional skills in writing resources, and in delivering education, where appropriate.

These areas are considered in more detail below.

Firstly it is important that advisers recognise that knowing 'everything there is to know' about the labour market is impossible.²⁷¹ Therefore, practitioners should think practically about the 'core' or 'central' knowledge they require and direct CPD activities to these areas.²⁷² The 'central' knowledge for a practitioner will depend on their core client group – for example, advisers working in higher education will require a grasp of graduate employment options, whereas for practitioners working in schools detailed information about higher education application mechanisms is likely to be important. It is important that practitioners reflect on their context and the common information needs of their clients.

In addition, it is important that practitioners recognise the limits of their knowledge and take care around provision of information in areas where they lack sufficient expertise. Facilitating a client to access information themselves or undertaking research outside of the session are better approaches in these cases. Research skills, particularly the ability to identify and evaluate sources of information, are core skills for practitioners. Given the central importance of online sources of information, digital literacy skills are also important.²⁷³ Indeed, digital literacy has been identified as a significant skills need within the careers workforce, especially skills to work with social media and emerging technologies.

As well as the ability to work with information directly, practitioners also need a range of skills to use information in their work with clients. These skills typically include an ability to explain the value and purpose of information to clients, as well as being able to educate or support clients to identify sources of information and to assess their relevance and validity. Practitioners also need to be able to support clients to take action or access further support where necessary.²⁷⁴

Several indicative lists of professional skills required by careers practitioners can be found in the literature.²⁷⁵ A particularly important list is provided in The European Competence Standards for the Academic Training of Careers Practitioners.²⁷⁶ This list of competencies has been adopted by many countries across Europe in the development of qualifications for careers professionals, including the UK where the Career Development Institute has incorporated the NICE guidelines into a blueprint for professional roles in the career development sector.²⁷⁷ In this context, the Qualification in Career Development has several learning outcomes directly relevant to information provision. The value of careers practitioners being involved in a range of additional roles including the delivery of careers education, the writing of careers resources,²⁷⁸ engaging in social media,²⁷⁹ supporting mentoring schemes²⁸⁰ and even providing a key channel for the sharing and dissemination of 'soft' LMI and local LMI,²⁸¹ has been identified throughout the literature. Each of these roles will require practitioners to develop additional specific skill sets.

As well as the ability to work with information directly, practitioners also need a range of skills to use information in their work with clients

²⁷¹ Kumar and Arulmani (2014); UKCES (2012b); Hambly and Bomford (2018) ²⁷² Kumar and Arulmani (2014); UKCES (2012c; 2012b) ²⁷³ Sampson et al. (2018); Kettunen, Sampson and Vuorinen (2015) ²⁷⁴ See for example Cedefop (2016) ²⁷⁵ For example, Cedefop (2016) ²⁷⁶ Schiersmann et al. (2016) ²⁷⁷ CDI (2016) ²⁷⁸ Vigurs, Everitt and Staunton (2017) ²⁷⁹ Sampson et al. (2018) ²⁸⁰ Blissett et al. (2011) ²⁸¹ UKCES, (2012a; 2012b; 2012c)

Ethical practice and LMI

Thinking about when, what and how to provide information in careers practice is not always straightforward, and working with LMI involves a number of considerations in terms of ethical practice, including impartiality and equality and diversity. Recognising the ethical considerations around using LMI highlights the complexities of working with LMI and the importance of professional approaches to practice, including the importance of maintaining an ongoing reflective approach to practice.

Impartiality

Impartiality is an important consideration when working with LMI because 'facts do not speak for themselves' and information can be used to support different kinds of arguments.²⁸² The challenge is that although impartiality is a closely-held value of careers practitioners and a central tenet of most professional codes of practice, 'paradoxically ... as soon as a careers practitioner starts to explore the implications of a client's careers decision s/he will start to make a set of professional judgements.'²⁸³ The challenge of working with impartiality when delivering careers information is often considerable because it is precisely the ability of a careers professional to clarify and focus a user's needs and *select* information (so as not to overwhelm them) that is highly valuable. Judgements about what information to present or not, constitute a potential area where impartiality may be compromised. Further, even if advisers attempt to present 'objective' impartial information there are challenges that arise through the experience of communicating this information. Yates makes the point that: 'it is very hard to be objective about information. When it is shared information is inevitably interpreted so what you say to your clients will be biased: you will choose what to focus on, how to express it and the tone with which you say it.'²⁸⁴

LMI, equality and diversity and critical practice

Further ethical concerns may relate to equality and diversity. There are repeated assertions throughout the literature and the quality standards that information should be produced which is 'non-discriminatory' and which takes account of equality and diversity. However, in several documents there is recognition that simply providing information which is non-discriminatory is unlikely to be sufficient for addressing issues of equality and diversity. Key here is the evidence of continuing social inequalities in the workplace, and the evidence that 'formal' sources of information are potentially less impactful than information which is gathered through experience and close social contacts. Therefore, considering how best to use LMI in order to address inequality and challenge stereotypes is important.

One suggestion is that by 'critiquing and engaging with LMI, practitioners are better placed to promote equality of opportunity not only for their clients, but for the wider population.'²⁸⁵ Practitioners can use LMI to provide additional insight into the social structures of the workplace, including issues of under-representation of, for example, certain genders or social classes in different professions.

In several documents there is recognition that simply providing information which is non-discriminatory is unlikely to be sufficient for addressing issues of equality and diversity

²⁸² Barnes and Bimrose (2010, 18) ²⁸³ *ibid.* 20 ²⁸⁴ Yates (2014, 156) ²⁸⁵ Bimrose *et al.* (2006, 90)

Understanding social inequalities allows practitioners to engage in activities such as advocating for or lobbying on behalf of individual clients or groups of clients.²⁸⁶ Working with clients in one-to-one guidance or careers education may also offer opportunities for engaging clients themselves in developing a critical understanding of the world of work. An example of this comes from the Precarious Workers Brigade who are concerned to challenge precarious working conditions (including zero hours contracts and unpaid internships), and have suggested an 'alternative' curriculum for employability in higher education which encourages students to critically engage with the labour market and to engage in action against discriminatory and exploitative working practices.²⁸⁷ Similarly, Hooley and Andrews provide guidance to careers leaders in schools that 'It is important not just to view career and labour market information as a series of straightforward answers to questions. If we make critical use of it, and encourage our students to think critically about what it says, it can open up some big questions about how the world of work operates and how we know what we know.'²⁸⁸

In terms of critical engagement with LMI, an interesting perspective is provided by Offer.²⁸⁹ He argues that practitioners *must* take a reflective stance and critically reflect on the dominant discourses of the labour market, taking care not to inadvertently reflect and support the most dominant voices in the labour market. The example he gives is of the current discourse around the importance of increased labour market flexibility given the rapidly changing workplace. He notes that if this discourse is reinforced by careers professionals in their practice, this may shape individual clients' decisions, encouraging them to pursue flexibility, and actually help to *create* these conditions.

Practitioners *must* take a reflective stance and critically reflect on the dominant discourses of the labour market, taking care not to inadvertently reflect and support the most dominant voices in the labour market

²⁸⁶ Offer (2001) ²⁸⁷ Precarious Workers Brigade (2017) ²⁸⁸ Hooley and Andrews (2018, 33) ²⁸⁹ Offer (2001)



Chapter 8

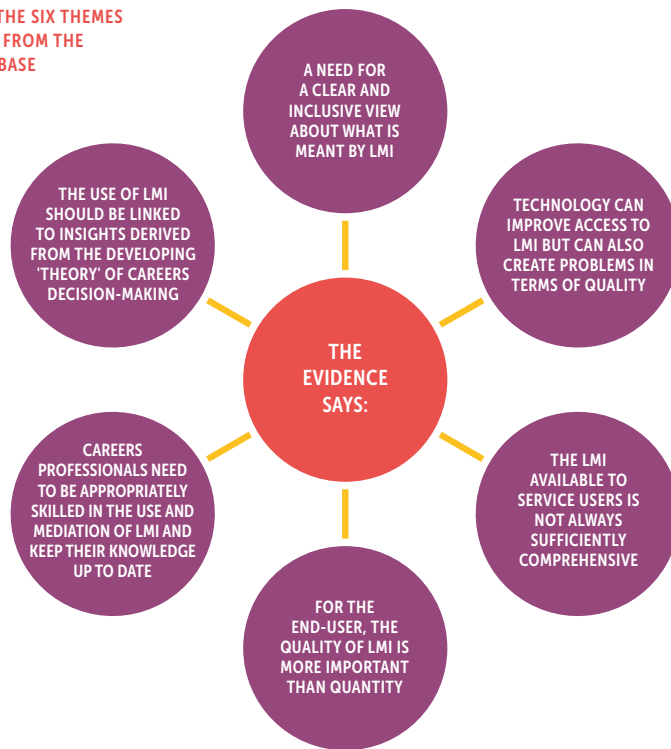
Final comment – we
seek to provide clarity
and practical insight



This report has placed LMI at the heart of a modern careers advice service. We have asked the question: What do we know from the research literature about the best use of LMI?

Some clear answers have emerged from the evidence base. We have summarised these patterns with reference to six themes.

FIGURE 5: THE SIX THEMES EMERGING FROM THE EVIDENCE BASE



We need a broad definition of LMI that goes beyond statistics about the job market

The literature indicates that we need a broad definition of LMI that goes beyond statistics about the job market. We consider that any relevant information that helps to build understanding about career and job requirements, patterns and availability, should be seen as LMI. Within this broad view of LMI, we highlight the transformational potential of technology-enabled LMI. The internet, in particular, has resulted in a great expansion in LMI availability. Although technological access can generate substantial possible benefits, there are also challenges – particularly in terms of the variable quality and sheer proliferation of LMI available online.



The issue of technology leads naturally to a consideration of the role of government. The state should monitor and regulate LMI provision, and there is a particular need to ensure quality assurance of internet-based resources. Government can also develop quality standards and 'signpost' users to quality assured LMI. The state should ensure that the right range of LMI exists. Some data necessary for career decisionmakers may not be gathered as a matter of course for other purposes. Ensuring supply of LMI is a responsibility of government, although provision can often be the work of others and government should establish proactive partnership arrangements with other bodies.

We emphasise the importance of expert mediation of LMI. Consideration should be given to how LMI can be embedded within the work of careers professionals. Practitioners need support and professional development in order to mediate LMI effectively.

Above all we consider that there is a need for LMI to be tailored to service users and used in a way that works for them. People require LMI at national, regional and local levels so that they can make informed decisions based on the labour market realities in their own neighbourhood as well as an understanding of more distant horizons and wider opportunities. Service users need to be empowered so that they can seek out and understand LMI for themselves. The careers professionals should start by asking the question 'what can clients do to become informed?' rather than 'what information do they need?'. This will help to situate LMI as assistance for a learning journey rather than an end in itself.

There is a need for LMI to be tailored to service users and used in a way that works for them

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ROYAL CANIN
Supporting Guide Dogs

GUIDE DOGS

Customer Club Book

Member Name	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Mr. Smith	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green
Ms. Jones	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow
Mr. Brown	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green
Ms. White	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow
Mr. Black	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green
Ms. Grey	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow
Mr. Gold	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green
Ms. Silver	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow
Mr. Bronze	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green
Ms. Platinum	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow

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