

Moments of Choice

How education outcomes data can support
better informed career decisions



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About The Careers & Enterprise Company

The Careers & Enterprise Company is an employer-led organisation that has been set up to inspire and prepare young people for the fast-changing world of work. Our role is to act as a catalyst in the fragmented landscape of careers and enterprise, supporting programmes that work, filling gaps in provision and ensuring coverage across the country. We follow four principles to do this:



For further information on The Careers & Enterprise Company:
www.careersandenterprise.co.uk

About this paper

This report draws on two pieces of research into how information is used to make careers decisions and explores ways in which better outcomes data could support informed choice.

Longitudinal education outcomes (LEO) data is information about the relationship between people's education and their subsequent employment and earning.

It can be used to assess the degree to which different qualifications, educational institutions, or educational routes are associated with higher earnings or higher rates of employment. The Department for Education (DfE) and the Department for Business, Innovation and Skills (BIS) asked The Careers & Enterprise Company to explore how such data might be used to develop better outcomes data about education and support informed career choices by young people.

The Careers & Enterprise Company commissioned two pieces of research which were conducted between January and March 2016 and which are summarised in this document.

The first was research¹ into how young people think about career decisions and how they use information. This research involved a literature review of what is known about career choices; in-depth interviews with 35 young people; round table discussions with teachers, employers and career guidance professionals; and co-design workshops with groups of young people to understand how they

would like to approach career choices. The research informs the first main section of this report: *Young People and Career Choices*. A full report of this research is published separately.

The second piece of research was a review of the current range of products and services providing information to support careers choices. In addition to desk research, we conducted interviews with organisations to understand their product development plans and to collect views on the most useful additional information that they would want to provide. The research is summarised in the second part of this report: *Information available to young people* and in the Annex.

These pieces of research provided two views of how best to use LEO data which have been synthesised in this report.

1. Behavioural Insights Team. (2016) *Moments of Choice. Behavioural Insights Team Final Report*. London: Behavioural Insights Team.

Foreword

The Careers & Enterprise Company exists to help young people transition from education to employment by assisting them to develop the insights, understanding and skills that will lead to them building a career.

Our focus since we launched has been to try to bring the world of work into the classroom in a way that brings it to life for young people and gives them a tangible sense of what different jobs and careers entail. Evidence suggests that high quality encounters with employment have a real impact on the likelihood of a young person getting a job and the amount they earn.

This report provides another, compelling reason for this type of activity – it is what young people say they want. Too often they are asked to think about careers without any real sense of what a job entails. It is like asking someone how they feel about a colour they have never seen. The words mean nothing.

But giving people a sense of what they could do with their life is only the start of the journey. As this research report shows, knowing what to do to get there and how to make sense of the myriad sources of data and information is not just confusing for young people – it is creating a real obstacle to young people engaging in decisions about their future.

This report was produced to outline the ways in which outcomes information would be of most use to young people making career decisions. But it also raises broader questions about how we help young people feel involved in the way in which their future is determined.

Alongside this report, we are publishing a second document with proposals on how we should respond to this: *A response to the Moments of Choice research*². This second document also explores in more detail the underlying assumption behind this research – namely that some choices can be regarded as ‘right’ or ‘wrong’; and that informed choices are better than uninformed choices. It describes how we could help young people with career decisions and it asks for comments and suggestions from stakeholders on the approach we are proposing.

2. The Careers & Enterprise Company. (2016) *A response to the Moments of Choice research*. London: The Careers & Enterprise Company.

In brief



Most young people are **not engaged** in thinking about different career options because the task appears too difficult. They are confronted with lots of information and little way to make sense of it, which leads to **'choice overload'**.



Young people want **experiences** that help them understand what it would be like to do different jobs and which inspire them with ideas about their future. They would like **more personalised information** that helps them find the best options for someone in their circumstances.



Longitudinal Education Outcomes data can help by creating more personalised information that better identifies the **choices that matter** on any given route through education.

Executive summary

Below we describe the key findings from the research and outline some uses for outcomes data.

1. **Young people find making career choices hard.** They face a high 'cognitive burden' – many options and few ways to make sensible comparisons between them. This can prompt them to disengage from the process or simplify it by fixing upon a single option. While many young people might, in theory, benefit from making more informed choices, they tend not to do this because the task of exploring careers information rarely feels worthwhile and useful.
2. **Young people appreciate the potential benefit of making more informed career choices but struggle to find answers to their fundamental questions:**
 - a. What are the possible careers open to me?
 - b. What will it be like to do a particular job?
 - c. What would I need to do to get there?

Lack of information is not a problem – the problem is making sense of the range and diversity of the information available to them. In other areas of their life, information comes to them in personalised forms that recognise the context in which they are trying to use it, for example product recommendations on Amazon or the 'suggestions' feature on Pinterest. This is not their experience of seeking information about career options.
3. The research identifies two different ways to raise levels of engagement in informed choice:
 - a. **Increasing inspiration and desire to know more.** Young people report the biggest barrier to engagement in career choices is the lack of any real sense of what different jobs or educational opportunities will be like and whether any appeal to them. Without this there is little incentive to learn more. Written information and data are not very effective at addressing this need. Real encounters with the world of work are more often cited as sources of inspiration and interest.
 - b. **Reducing the 'cognitive burden' of choices.** More consistent and personalised information can make the task of exploring possibilities more rewarding. This means helping young people define a manageable set of options to choose between without arbitrarily ruling out whole areas of activity. This requires better information, better career guidance support, and an education that builds their confidence and capabilities with regard to decision making.
4. **Provision of digital information about careers is fragmented** with at least forty-nine different organisations in the UK providing different types of information services to help people make

choices of jobs, careers, qualifications or educational institutions. While there is considerable innovation in the sector, we are not yet at a point where young people can access personalised information that integrates comparable data across the full range of options relevant to their situation. Information services often do not integrate into the broader context of advice from trusted sources such as parents, teachers or career guidance professionals. The ability of careers guidance professionals to integrate these sources of information into advice for young people depends on the quality and consistency of careers advice in schools.

5. LEO data can improve the quality of information available to young people by:
 - a. Providing **longer term earnings** information giving a more complete picture of different options. This is not something that young people particularly identified as a gap, although earnings information was seen as useful. However, organisations providing information and career guidance services were concerned that short-term earnings information may be misleading and believed their audience would want to see longer term information. Earnings data 3, 5 and even 7 years after leaving education was of particular interest to organisations that rank higher education institutions who felt that people seeking a university education were often doing it because of the longer term earnings potential. While the limitations of such information were recognised, it was seen as being an improvement on the current shorter term earnings data.
 - b. Providing **comparable outcomes data** – including measures of earnings and employment rates – about different career paths, such as university vs apprenticeship.

Comparable earnings information for different educational routes is in line with the needs expressed by young people. It is also of interest to a number of career advice services, some of which would be particularly keen to see trend data, predictive analytics and value-add analyses. This reflects concerns that average earnings data might be misleading. It could, for example, reflect past circumstances rather than the circumstances that young people will face in the future, or it may reflect the social circumstances of the people who have selected particular educational routes in which case it would not imply that people in different circumstances who selected those routes could expect the same outcome.
 - c. **Analysis of 'routes'**. Routes are different journeys through the education system and into employment. Routes could be defined by clustering typical journeys in terms of types of institutions attended, types of subjects studied, and types of qualifications achieved. These could then be associated with good and poor outcomes. Outcomes could be defined in terms of earnings and employment (including measures of volatility) as well as other aspects of the journey such as whether young people relocate for work. This could be more useful than information about institutions or qualifications and would instead allow the creation of information about typical groups of learners.

Creating information about educational routes is in line with the needs of young people and is the area of most interest to providers. One reason for this is that it could support the more effective targeting of information to young people and personalisation of information. This is an area where organisations would like to find ways to be able to work collaboratively with government on the underlying data.

6. There is now a small but growing industry of data-driven careers advice services. This industry, along with the online employment search industry, has an interest in working collaboratively with government to improve the overall data infrastructure that supports informed choice. Some of the issues raised by this industry were: access to consistent directories of courses and institutions; better ontologies for jobs, skills, employers and industries; and data standards for certain types of information about jobs and qualifications. Such work might help to improve the value of LEO data by addressing a weakness in the data – the absence of data about the jobs people do.

Young people and career choices

Below we summarise the findings of the research with young people, teachers, employers and careers guidance professionals.

1. What influences career choice?

Research into young people's career decisions has identified a wide range of influences. Parents, peers, teachers and careers guidance professionals as well as social factors such as gender and personality all have an impact – as does the relative popularity of different TV shows.

The end result is that young people often have a world view that may not lead them to make the best decisions about their future. For example:

- Young people refer disproportionately to jobs that were common during their parents' youth rather than those that are available today.
- Parents are prone to believe that their own education is the most appropriate for their own children. So while parents who went to university felt that apprenticeships were a good option, very few felt it was right for their own children.
- Young people were likely to view university as their preferred choice, even when this was unachievable or unnecessary for their chosen career.

This suggests that young people might make better career choices if they were better able to assess different education and career options.

For the purposes of this report, we assume that this is true. We define worse choices as those which an individual would have preferred to make with fuller information than was available to them at the time and where it is possible for uninformed choices to lead to worse outcomes. On this basis, it is also likely that the number of people who would benefit from more informed choice will increase as the rate of change in the job market increases and information from parents and home becomes less reliable as a guide to the future.

2. Engagement in career choices

Young people reported low levels of confidence in the value of attempting to engage in informed career decision making. They found the experience of investigating career options frustrating and uninspiring. They were able to see that in theory, there might be value in making informed choices. But despite lots of information being available to them, they were not persuaded that they had the necessary understanding and information to make sensible decisions.

In discussing how they think about careers, they expressed a desire to get answers to the logical questions such as:

- What are the possible careers open to me?
- What will it be like to do a particular job?
- What would I need to do to get there?

However, their efforts to investigate careers rarely yield intelligible answers to these questions. The information about careers young people identified looking for most commonly is qualification requirements, followed by salary information and information about the day-to-day duties of particular roles. Although salary is often looked for, young people say it is not the main influence on their decisions and they are more concerned to understand what life would be like. The key to opting for a career path was the degree to which they could imagine themselves in a particular role. Information about salary and entry requirements were then used to confirm whether an option was viable. The implication of this is that widening the range of careers that young people consider as career options is best achieved by providing ways for young people to picture themselves in different roles.

3. Styles of decision making

We characterise the different approaches that young people bring to career decisions using two dimensions – the extent to which they are open to different options and the extent to which they are seeking information. These allow us to identify five typical behaviour patterns.

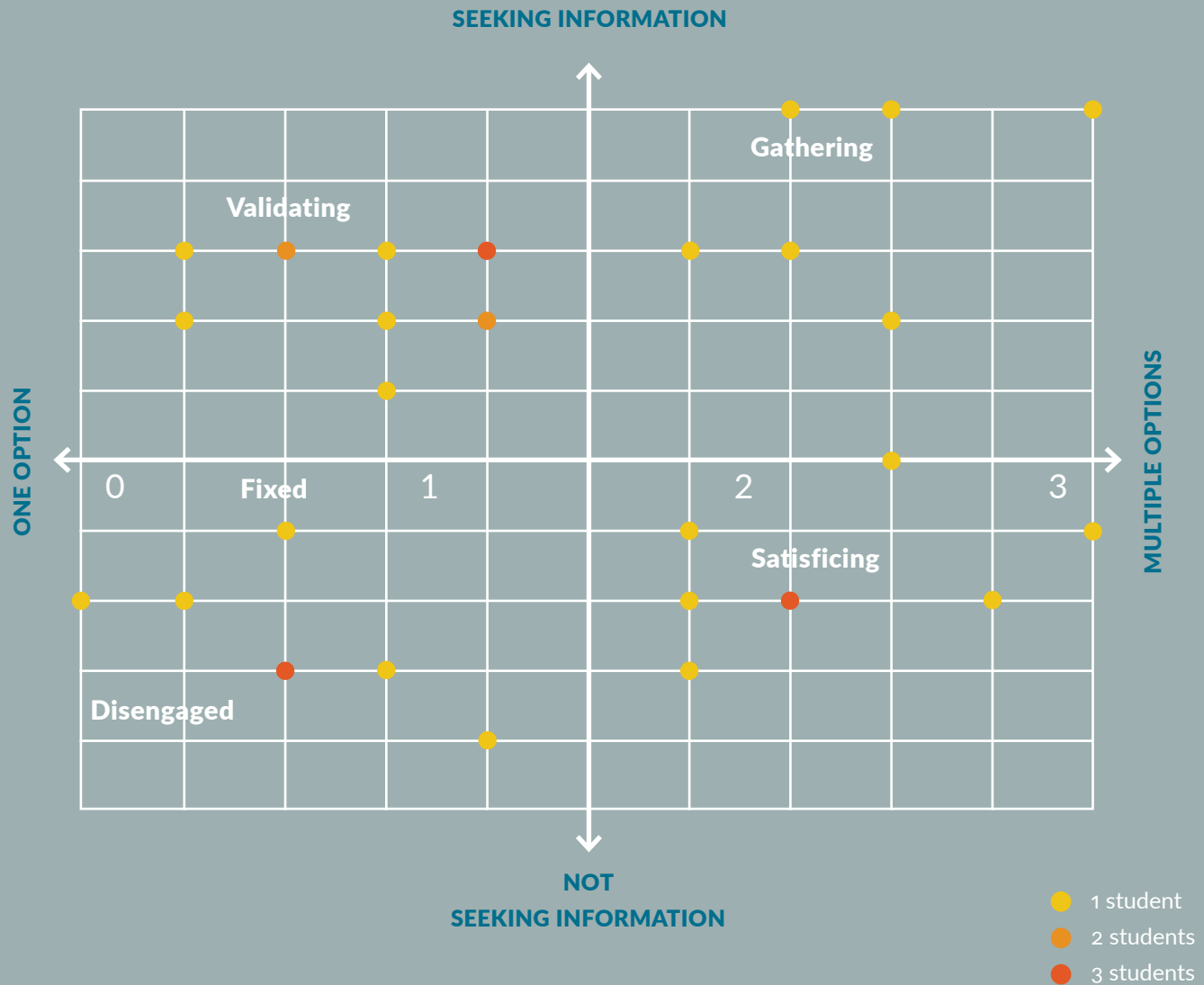
- **Disengaged:** no decisions made about the future; no desire to make decisions; no desire to seek information.
- **Fixed:** decided on a single option (whether appropriate or not); no desire to seek further information.
- **Satisficing:** considering multiple options; seeking information until the first acceptable answer is reached at which point it is accepted as a decision.
- **Validating:** decided on a single option and seeking information in order to validate that decision.
- **Gathering:** open to different options and seeking information in order to choose between them.

‘Gathering’ – the behaviour that is consistent with informed choice – was rare. It was also the least enjoyable approach. Those engaged in gathering were the least positive in interviews as measured by the ratio of negative comments to positive comments.

A common pathway was to move from satisficing when considering what option to take to validating once this option was chosen. The problem with these behaviours is that potentially better options are discarded without good reason.

The next page plots the 35 young people interviewed on the two axes of the number of options being considered and the use of information to investigate them. The young people interviewed fall into four of the five groups, but in discussion with teachers and career professionals there was feedback that this failed to capture the number of young people who would be better characterised as disengaged.

Segmentation Analysis



Fixed

Not searching for information because they feel they have sufficient information (correctly or otherwise). Decided a long time ago what decision they would make.

Disengaged

Disengaged from the decision and from support structures designed to assist with decision-making. No idea what study, career or job they might do in the future, and no interest in investigating further.

Validating

Actively searching for information, focused on validating a decision already made. Searching sector-specific websites, or on gaining information on specific qualifications (i.e. comparing institutions or occupational qualifications).

Satisficing

Information search behaviour is passive: searching is extrinsically motivated (e.g. in careers classes) or incidental (e.g. seen job portrayed on television, parents mention it). Not looking beyond the specific decision they are currently facing, or have a general sense of uncertainty beyond that point.

Gathering

Actively searching for information about current decision, future decisions and links between them; seeking comparisons of options (either within or across information sources).

4. Choice architecture and rational behaviour

'Choice overload' is a barrier to informed choice. Choice overload occurs when people face a choice between a large number of options with no consistent yardstick to compare them. Young people are presented with a wide range of future careers and a large amount of information about these options in incompatible or non-comparable formats.

Choice overload prompts anxiety and makes decision making taxing. Young people are being asked to evaluate options on several different axes at once ("what is important to me in a career?", "what is achievable for me?", "what type of study do I want to do?"). A common response to choice overload is to use heuristics, or rough rules of thumb, to narrow the decision-space as quickly as possible – for example by discarding options about which little is known. Another response is decision paralysis where young people avoid making any decisions because they are aware that they cannot successfully balance all the considerations.

The behaviours of young people faced with career choices are typical responses to choice overload. Some close down their choice space by fixing on a single career and looking no further. Others deal with the problem by avoiding it: avoiding big decisions and dealing with smaller ones as they arise.

In other words, young people are presented with a choice environment in which attempting to act rationally looks like an irrational choice. It is simply too difficult.

5. Increasing engagement – moments of choice, moments of inspiration

Efforts to increase engagement in decision making should aim both to reduce the cognitive burden of careers choices and to increase the enthusiasm of young people and their confidence in the value of the process. Young people often reported seeking what we might class as 'inspiration' rather than information.

While data and digital information resources can play some role in this (social media was cited as an influence) young people are inspired by anything that gives them an idea of what it would be like to have a particular job. This includes, for example, the TV programmes they see and what they read about in media. It also includes encounters with employers or people in employment; their interactions with teachers, social workers and medical staff; the influence of parents, uncles, aunts and family friends; as well as structured encounters such as careers fairs and work experience. The positive impact of encounters with employers has been well evidenced, supporting the views expressed by young people about the need for a more concrete idea of what different careers would be like.³

These 'moments of inspiration', when a young person becomes engaged in the idea of a possible career, happen at unpredictable moments and are quite distinct from the 'moments of choice', when hard decisions have to be made. The diagram on page 12 maps a typical career journey, illustrating the disconnect between moments of inspiration for young

3. Percy, C and Mann, A. 2014. "School-mediated employer engagement and labour market outcomes for young adults: wage premia, NEET outcomes and career confidence" in Mann, A., Stanley, J. and Archer, L eds. *Understanding Employer Engagement in Education: Theories and Evidence*. London: Routledge. URL: <http://www.educationandemployers.org/research/school-mediated-employer-engagement-and-labour-market-outcomes-for-young-adults-wage-premia-neet-outcomes-and-career-confidence-2/>

people – prompted by a wide range of events from TV shows and social encounters to career guidance events – and moments where decisions are required – when they have to select subjects to study or put in an application for a job. Information seeking is associated with moments where decisions are required rather than with moments of inspiration. But it may be the latter moments that the really big decisions get made about what sort of life someone decides to lead.

Many information systems are built to support those moments of required decision making rather than moments of inspiration. When young people were asked to describe their ideal for a careers information service, they talked about social media such as ‘Pinterest’ that drew their attention to things they might not have thought of in engaging ways and through social interaction; or online retailers such as Amazon that are skilled in identifying products they are likely to find appealing. Although data and digital information is often of most relevance to ‘moments of choice’ rather than ‘moments of inspiration’, information products could do more to reflect the career journey that young people go through and aim to engage them in the longer term process of idea formation as well as the moments of choice.

6. Lowering the cognitive burden

Increasing the total volume of information available to young people has the potential to be counterproductive unless accompanied by policies designed to reduce cognitive burden, such as:

- Making the navigation of options and the structure around decision making easier including pushing relevant information to young people.
- Enabling greater personalisation of information.
- Creating more consistent information across different career paths.

Young people indicated that they wanted more information to come to them rather than be sought out including inspirational information about potential future routes. Once engaged, they wanted information systems which allowed filtering and searching in ways that were intuitive.

Young people are used to a world in which ‘information comes to them’ and saw no reason why career search should be different. We can distinguish between ‘pull’ type information systems, such as search engines, and ‘push’ type information systems, such as marketing campaigns, targeted emails or dynamic web pages. Careers information is in the main ‘pull’. Consideration should be given to a mechanism that would safely allow the ‘push’ of information to young people.

It was noticeable that of all the stakeholders whom we talked to about the provision of more information, employers were among the most enthusiastic because they saw it as an opportunity to reach young people who might be suitable for their industry and who may not know it.

Moments of choice

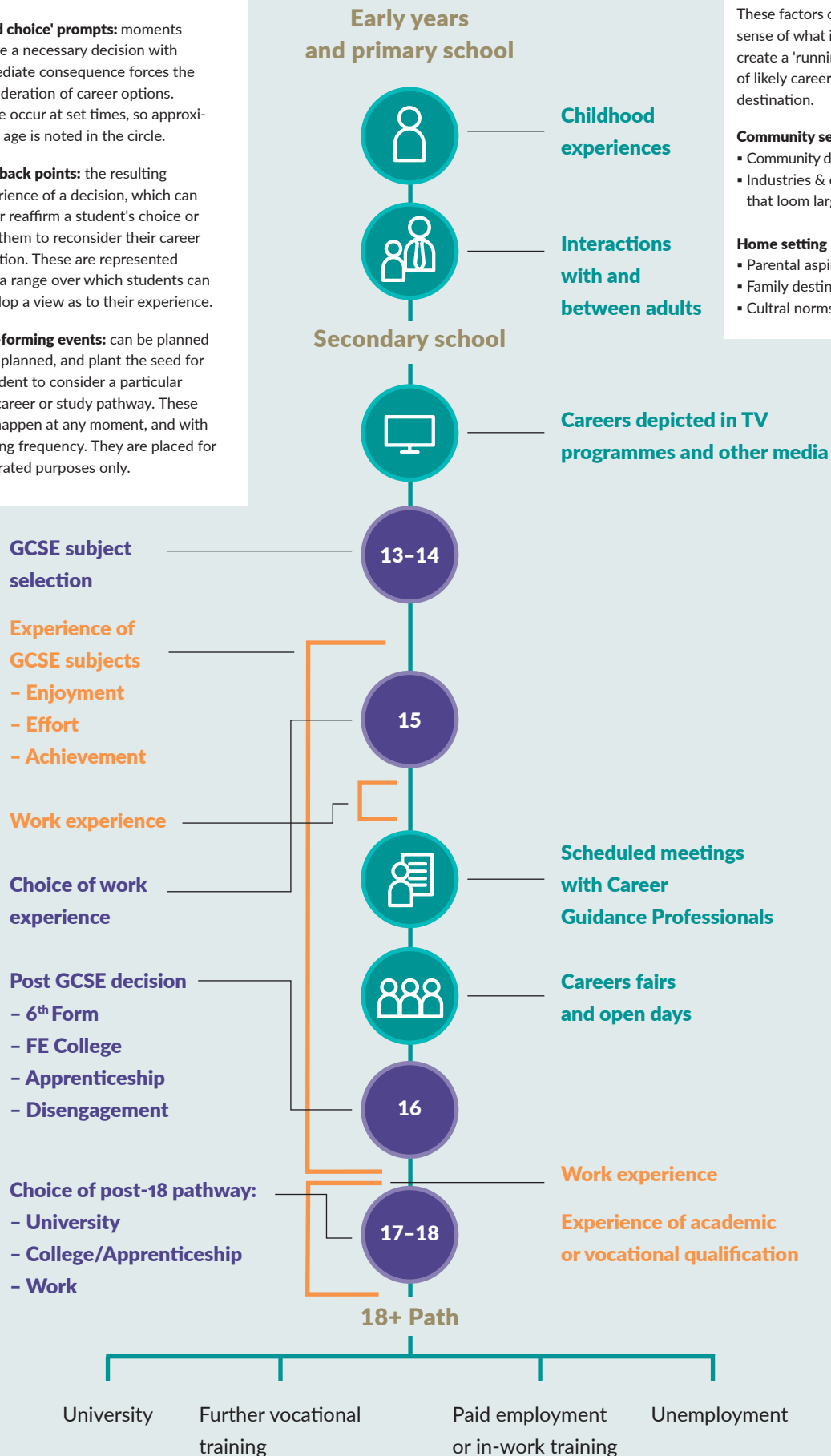
Key

- 'Hard choice' prompts:** moments where a necessary decision with immediate consequence forces the consideration of career options. These occur at set times, so approximate age is noted in the circle.
- Feedback points:** the resulting experience of a decision, which can either reaffirm a student's choice or lead them to reconsider their career direction. These are represented with a range over which students can develop a view as to their experience.
- Idea-forming events:** can be planned or unplanned, and plant the seed for a student to consider a particular job, career or study pathway. These can happen at any moment, and with varying frequency. They are placed for illustrated purposes only.

Contextual factors

These factors can inform a sense of what is attainable, and create a 'running hypothesis' of likely career or post-school destination.

- Community setting**
 - Community destination norms
 - Industries & employers that loom large locally
- Home setting**
 - Parental aspirations
 - Family destination norms
 - Cultural norms



Employers were interested in trying to bring information to young people that might engage and inspire them – the information that young people said they were seeking.

There was a strong sense of the inadequacy of personalisation of information. Information about average salaries for job roles or typical jobs for people with particular qualifications is hard to assess if you do not know whether you are typical or average.

In situations where decision making can become more reflective and information-based – where the options are more bounded – there is scope to make navigation of information easier. For example, young people destined for university will typically make choices by first selecting a degree course (based on aptitude and appetite) and then using various sources of consistent information to rank institutions against quality and entry requirements. At this point, it is possible to rank and compare options based on one or two key criteria. Sources of information about quality include social reputational information as well as data such as rankings (which will in turn inform reputation).

Even here, however, young people felt that the services available to support choices could be better. The searching and filtering options on some sites were not as intuitive or as useful as they could be.

7. The ideal for young people

In describing what they want to support informed choices, young people wanted:

- To be able to consider a range of options without being confronted by such a wealth and diversity of information as to make the task overwhelming. This requires that information about different options be comparable and information be presented in ways that avoid artificial obstacles to considering different options in an even handed way.
- To have information systems that were personalised and able to identify the information of most relevance to them.
- To have information come to them rather than for them to always have to seek it out.
- To have information systems that did not prevent them defining searches in ways that made sense to them.

In setting out these hopes, young people identify many of the criteria identified in the literature as necessary for effective information systems. In particular, their description highlights the need for information systems to be personalised and to recognise the cognitive context while, at the same time, being transparent and giving the individual agency. While there is often a tension between meeting these requirements, effective information systems balance that tension.

From a review of the literature on effective information to support choices, eight design principles have been identified which characterise the most effective resources:

Informed choice is supported by information provision that:

1. Understands the cognitive context of the decision so that the design of advice works with the grain of the intuitive system, and supports good reflective decision making.
2. Is trustworthy.
3. Personalises to the individual and what is meaningful to them.
4. Gives young people agency and is transparent about how their input preferences have led to outputs or advice.
5. Structures information provision so big decisions are broken down into smaller choice sets.
6. Provides information when needed, rather than overloading young people with information that is not salient, relevant or useful to them at that time.
7. Helps influencers (teachers, parents or carers, Careers Advisors) give meaningful advice to young people, and
8. Signposts actions.

8. Helping young people make informed choices

The research with young people identified a number of steps that could help young people make more informed choices:

1. **Bringing them ideas and inspiration.** Bringing different career possibilities to life for young people will help them to imagine themselves in different jobs and to make better choices. This can be achieved through well-designed encounters with employers and the world of work. There may also be ways to do this digitally – for example by creating relevant games – but young people do not currently report much confidence in the ability of online information to meet this need.
2. **Design interventions that support different cognitive contexts.** Careers information should be designed to support idea formation and to widen the range of possible scenarios that young people can imagine as well as to support decisions. This requires that careers information services are not built primarily around particular moments of choice but are built to support a deeper and longer term interaction.
3. **Simplify the choice architecture** and lower the cognitive burden of making informed choice. This can be achieved by:
 - a. Creating more consistent information across different domains.
 - b. Enabling greater personalisation of information.
 - c. Identifying mechanisms that would allow greater push of information to young people about career options.

Young people talk about career decisions: some quotes from the research by the Behavioural Insights Team.

"I decided I wanted to [work in childcare] because I've always been told how great I am with my little sister and brother... people always tell me I want to be a nursery worker. I've just got into it, I want to be it."

Ellie, Year 9

"This year's been a lot about options, and what I'm going to take next year. It has had a massive impact because you've got to sit there and think, 'What am I going to take?' It's made a massive impact because it makes you think, 'This is what I want to do when I'm older'."

Steve, Year 9

"After [school], after college, university, I would like to take on the career of becoming a dentist, it's something I've always wanted to do, it's the only career choice I've ever wanted to do."

Jacob, 15

Information provided to young people

Below we summarise the findings from our review of the market.

1. How well does information provision meet young people's needs?

There is a wide range of information services available to young people. We identified over forty-nine different online information sources designed to help people choose a job, a career or an educational opportunity⁴. In addition, young people receive advice and information from teachers, career guidance professionals and their family.

There are numerous innovative approaches that have been developed over the last decade using digital technology to support career choice and a wide range of data sources about jobs, industries and education providers. The range of information available to young people is extensive and includes:

- Qualifications and salaries for different types of jobs.
- Which jobs can be done with different types of qualifications and skills.
- Which jobs go with different personality types.
- Average earnings and employment rates for different 18+ educational options.

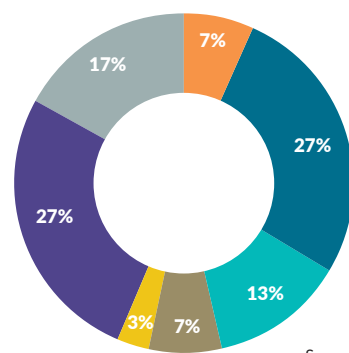
On the face of it, there would appear to be ample information to answer the three key questions that young people are seeking answers to. Given that, it might at first sight

appear to be something of a mystery that they feel poorly served by careers information. However, closer analysis of the way in which the market for careers information operates reveals a number of reasons why young people might feel frustrated:

i) The market place is highly fragmented

At a high level if we look at the range of choices young people face – choosing a career, a qualification, an institution or a job – most information services focus on one or two elements of these choices (See Table on page 17). Furthermore, within each of these areas, we find further fragmentation. For example, if we look at those services designed to support a choice of qualification, most only look at a subset of possible options.

Percentage of providers*



Source: PwC

Qualification choices covered

- FE
- All three post-school qualification options
- FE and work-based learning
- HE and work-based learning
- HE
- Work-based learning by itself
- HE and FE

4. The market research was supported by PricewaterhouseCoopers LLP (PwC)

*Percentages may not sum to 100 because of rounding error

Coverage of choice topics by information providers (ordered alphabetically, by number of choices supported)

Provider	Number of choices supported	Career choice	Job choice	Qualification choice	Place of learning choice
All about group	3				
BestCourse4me	3				
National Careers Service	3				
Not going to university	3				
Plotr	3				
Prospects	3				
Rise to	3				
The Student Room	3				
UCAS	3				
Unifrog	3				
Bridge U	2				
Directions	2				
Fasttomato	2				
GCG Changeworks	2				
Horsemouth	2				
LinkedIn	2				
NCFE	2				
Push	2				
Sacu-student	2				
Skills Route	2				
Success at school	2				
The Access Project	2				
The Complete University Guide	2				
The Guardian	2				
Total Jobs	2				
U-Explore	2				
Unistats	2				
What Uni	2				
Which University?	2				
Adzuna	1				
Apprenticeships	1				
Founders for Schools	1				
Future First	1				
Future Morph	1				
Get my first job	1				
Go Think Big	1				
Icould	1				
Iggy	1				
Inspiring the future	1				
Jobs.co.uk	1				
Milkround	1				
Monster.co.uk	1				
Mykinda Future	1				
Qube Learning	1				
Talentino Careers	1				
TES Global	1				
Think Alumni	1				
We connect students	1				
Google	0*				
Total number of providers supporting choice		29	13	30	15
Total as % of 49 providers		59%	27%	61%	31%

*Whilst Google does not support a specific 'choice topic' for young people, it is often their first port of call for exploration of educational and careers opportunities (as identified in BIT fieldwork) and has therefore been included in the provider landscape.

ii) Few services meet the design principles for effective information services.

Forty-nine information providers were rated against the nine design principles by PwC. Services were found to be better at pull type activities – providing information when needed, breaking decisions down into manageable chunks and signposting actions. They were less effective at recognising the cognitive context, personalising information and giving young people agency.

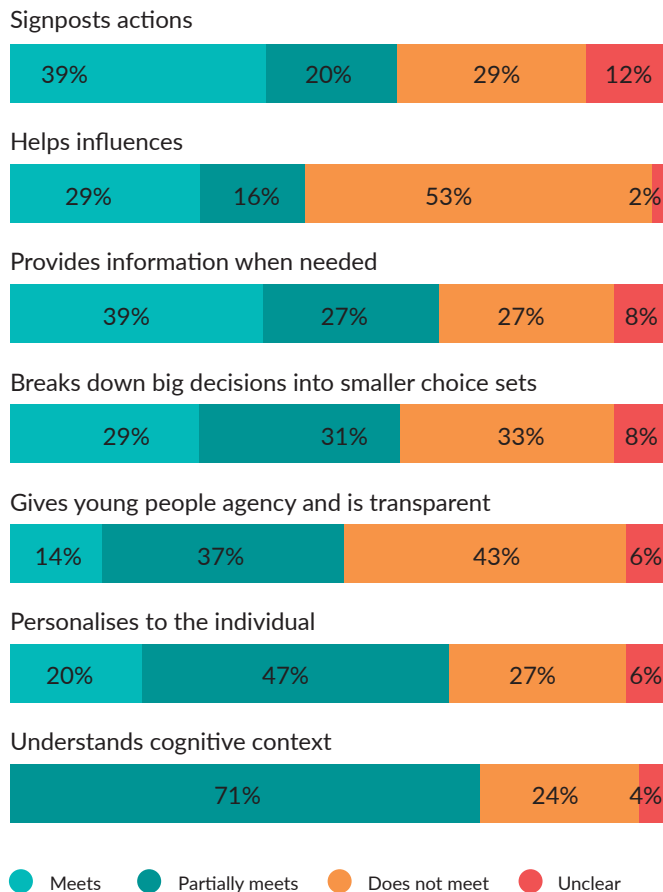
It was also noticeable that few information products were explicitly designed to support influencers. While many are used in this way, it is not obvious from the way in which they are presented that they have been designed with this in mind.

Some of the newer careers advice services are starting to develop systems to offer more personalised advice by, for example, collecting information from young people about their interests and personality (e.g. iCould, Plotr, Prospects). Other systems attempt to personalise information around data about the young person’s qualifications and subjects studied – for example *A-level explorer* from Which? tells you what university courses are associated with different A-level choices.

But none of these systems provides a fully personalised approach which considers a young person’s interests, personality and qualifications. The outputs at times can appear banal or obvious rather than inspiring. Careers advisers suggest that young people were put off if information was so generic and broad that it could not be taken seriously.

Personalisation in online careers advice tools tends to rely on ‘matching’ algorithms that can at times appear crude (*‘if you like working outdoors and enjoy science why not become an environmental protection officer?’*). The degree to which such technologies are helping young people identify reduced choice sets in a way that feels authentic is open to question. The test of effective personalisation is the degree to which it can first, remove options that are irrelevant and second, present limited choice sets that feel relevant and actionable without being unduly restricted or oddly specific. It should help people identify the choices they should focus on and which make a difference – for example, deciding to continue studying biology at 16 without necessarily deciding to be an environmental protection officer.

Alignment to the design principles for information products across the provider landscape*



*Percentages may not sum to 100 because of rounding error Source: PwC

Some service providers observed that one obstacle to effective personalisation was a tendency to focus decision making around specific jobs rather than around the development of skills with a view to broad types of job role. Focussing on jobs could appear de-personalising in situations where there was little or no plausibility to efforts to identify the most appropriate future job for an individual.

Most of the design principles relate to the effective targeting of information. Information that arrives when needed, recognises the cognitive context, is personalised to the individual and signposts actions is what in marketing terms would be described as effective targeting of information. Effective targeting depends on being able to make reasonably accurate suppositions about what an individual is likely to be interested in. Many products lack sufficient information to be able to do this effectively.

2. Will investment by the market address these shortcomings?

Although the market is fragmented, most organisations in this area have ambitions to provide much more comprehensive services. The Annex describes the current landscape of information provision in terms of the key decisions that different information providers support. But while many information providers have a focus on one particular area of decision making, most are interested in expanding their offering to be more comprehensive.

The fact that service providers are not yet delivering a more complete service can be viewed as a market failure. Although we have not conducted a detailed analysis to explore the potential reasons for this failure, we can tentatively identify some aspects of the market which may help to explain some of the weaknesses in current product offerings:

- The resources and effort required to create personalised and engaging web interfaces are significant. Many organisations in this area are new. Although the commercial market to support job search is large, the market for careers advice is not and can only support a limited level of investment in product development.
- There is a diverse mix of organisations involved each with different objectives and interests – large private sector organisations, start-ups, not-for-profits and public sector bodies. This limits the degree to which market solutions such as business mergers can help the market coalesce around a small number of winning solutions that can then operate at scale.

How could better outcomes data help?

Below we set out our assessment of the most useful outputs from LEO data.

The response of information providers to the possible availability of additional outcomes data was mixed. A majority of organisations interviewed expressed the view that other steps to improve data flows were more pressing than the provision of outputs from LEO data. For example, a large contingent were more concerned at improving the experience of information seeking by a) better integrating different official information services; and b) improving the underlying data infrastructure such as consistent universal course directories.

Among those organisations with an interest in using LEO data there were concerns about the potential for outputs from LEO to be misleading. The value of LEO data depends on the degree to which paths into careers are consistent and stable over time and the extent to which employability and financial reward figure prominently in career choices. If paths are not stable, information about the past could be misleading. For this reason, there was interest in the use of LEO data to produce earnings trends and predictive analyses.

The main areas where LEO data was seen to be able to add value were:

- **Longer term earnings data.** Publishers of institutional ratings and rankings or guidance about educational institutions saw the greatest short-term opportunities in LEO data and recognised that, in particular, it had the potential to greatly improve the quality of earnings data, particularly if it is able to demonstrate earnings over the longer term – e.g. 3.5 or 7 years. Also, it was believed that LEO data would allow more accurate earnings information than is available from surveys.
- **Creating consistent measures of outcomes across different routes and estimating comparative value add.** Some organisations were most enthusiastic about the possibility of calculating consistent measures of earning and employment across different educational options. A subset of these were particularly interested in the possibility of providing comparative value add data for different routes – e.g. going to university vs doing an apprenticeship or going straight into work. There was no consistency about the level of information sought, some seeking it at course level, others at subject and institution level and others just at institution level. This area was of particular interest to those organisations interested in newer ‘self-driven’ educational opportunities.
- **Understanding routes and creating more personalised outcomes data.** Some organisations expressed significant enthusiasm for the longer term potential to develop more personalised forms of outcomes data. The types of output that they were most interested in were: 1) analysis of the range of possible outcomes associated with different

combinations of qualifications (routes through education); 2) analysis of the different educational routes associated with particular types of outcome. The information that these organisations are requesting are consistent with the questions identified by young people – what sorts of careers could I have? What would I need to do to achieve this?

Of these three types of information, the last was the area that prompted the greatest enthusiasm among providers. It is also perhaps the area that most closely links to the desire from young people to have more personalised information.

Organisations involved in helping people find jobs felt that LEO data might provide further insight into the shape of the jobs market and, possibly, the importance of qualifications or willingness to travel within that market. However this was tempered by a sense that data drawn directly from information about job applications would probably be more informative on the importance of qualifications for particular jobs.

The level of access that organisations would ideally like varied. Some preferred the option of open data published by government but as many, if not more, were interested in mechanisms that would enable them to get outputs from the raw data.

Those organisations interested in information about educational routes and value added measures were among the most interested in finding ways to work with government on the underlying data. There was widespread recognition of the difficulty of doing this because of the need to protect privacy but a desire to engage with government to find ways of working together on these questions.

3. Getting the most out of LEO data

A major limitation to the value of LEO data is the lack of information about jobs. The outcome that young people are interested in is jobs. LEO data defines outcomes in terms of income and industry. Furthermore, industry is defined using the ONS Standard industrial classification of economic activity (SIC codes). These were felt by many to have failed to keep pace with changes in the economy.

A number of organisations expressed an interest in working with government to overcome these issues with a number of ideas put forward, including:

- Combining HMRC data with other information sources to categorise employers in a way that is more meaningful than SIC codes (e.g. identifying employers by size and growth rate as well as industry).
- Using other data sources such as digitised banks of CVs held by online recruitment agencies or HR systems may make it possible to get information on the relationship between qualifications and job roles to better understand the value add that qualifications may be providing. However, it was unclear how comprehensive and complete such data sources would be.
- Combining government data on employment and qualifications from LEO and LMI with job market data on openings and applications from commercial job-matching services to provide a fuller picture of the local jobs market in different localities.

All the organisations spoken to recognised that making the most of LEO data was going to be a medium-term process over the next 2-5 years. There was a strong desire to see government put forward an information strategy addressing the data barriers to more informed choice that would encompass how LEO data would be deployed over coming years. This strategy should indicate the priorities for development of information from LEO data and how these data would be developed.

It should be shared with information providers and identify how they can be involved in this work. It could address a number of information issues that limit the ability to support informed choice, including:

- Lack of consistent course directories.
- Lack of access to course directories.
- The need to improve upon SIC/SOC classifications.
- The benefits of data standards for information used in CVs and job ads (e.g. qualifications).
- The benefits of gaining empirical evidence of the relationship between qualifications and skills.

Suggested next steps

Below we outline some useful next steps.

1. Useful outputs from LEO data to support informed choice

The research points to two ways in which LEO data could be used to make choices for young people easier.

In the short-term, the output of longer term earnings data or information about earnings and employability that is comparable between different types of qualification or institution would help to support informed choice.

In the medium-term, LEO data could be used to understand how outcomes are associated with different routes through education. This would allow analysis of how different choices by people in similar situations were associated with outcomes defined in terms of sustained employment or higher than average earnings. It would also allow analysis of the range of possible routes to any given outcome.

This would support much more effective personalisation of information for young people and might be able to support effective 'push' approaches to information. For example, it could be used to identify which choices matter most to particular cohorts of learners.

2. Methods of information dissemination

There are a number of different ways in which government can disseminate information from LEO data. We can identify three broad categories.

1. Government determines data outputs and publishes them on official websites designed to engage young people.
2. Government determines data outputs but publishes them as data and makes them available through APIs for others to publish to young people.
3. Government allows other organisations to determine data outputs and provides mechanisms for them to generate their preferred outputs which they then publish.

It is no surprise that most information publishers preferred the last two options. However, views as to whether providers should be involved in the creation of outputs as well as the publication of information varied according to the type of outputs being considered.

Those organisations most interested in analyses of average earnings and comparable outcome metrics for institutions and qualifications preferred that this information be created by government and published through an API allowing them to reuse the data. Services aiming to support choice of qualification might also make use of this information.

Information to support choice of HE institutions is relatively well served by a number of providers. There are fewer services looking at FE and apprenticeships or which allow comparison across all options.

Measures of the additional value offered by different educational routes could be handled in the same way, although there would be greater interest in information providers engaging in the creation of these data. A HESA style service to allow organisations to commission (and pay for) such analyses would be one option here.

Those organisations interested in more complex analyses of how different routes through education lead to different outcomes were more likely to express a desire to be closely engaged in the design of data outputs with many expressing a desire to work directly with the data. Direct access to raw data – as sought by some providers – may encounter legal barriers. However, collaborative working between government and information providers on these analyses has a number of potential benefits. Information providers may be able to bring expertise and resource. Also, they bring the ability to test how users react to the information, messages and guidance that result from such analysis. Within the need to protect privacy, there are mechanisms that could be used to allow a degree of involvement in analysis by information providers. These include:

- **Datalabs** are arrangements whereby in a controlled environment or through a controlled online interface specific queries can be run against underlying data. This approach is used in Germany to allow research on healthcare data sets. In the UK, the Ministry of Justice has a Datalab that allows external organisations to test the impact of interventions by running analyses on government datasets without accessing confidential data. This approach however, is of less use in iterative processes to develop information outputs and of more use when the aim is to allow particular forms of pre-defined analysis.
- **Synthetic data sets.** One approach to allow non-government organisations to learn from government data is to make use of synthetic data sets, which mimic the real data but which are fabricated. This approach is not used in the UK but there are international examples. For example, the Canadian health system provides synthetic data sets that allow external organisations to develop SAS/SPSS code which can then be run on real data and the outputs checked for potential privacy risks before release.
- **Academic collaboration.** Encouraging collaboration between academic researchers and information providers. Providers could be encouraged to sponsor academic work; or government could offer partial or full grant funding for research in this area to be conducted under joint supervision with information providers.

3. A data strategy to support informed choice

There is considerable interest within the careers advice industry in the development of a medium-term data strategy to support informed choice. This should signal what government plans to do in terms of publication of LEO data and other data sets. It could also signal plans for investment in underlying data systems. Lastly it could identify opportunities for government and information providers to work collaboratively on improving the value of information.

A programme of work to investigate the impact of choices on outcomes should consider the potential benefits of working with data from other sources. For example, analysis of CVs could allow for an association between qualifications and jobs that would supplement the association between qualifications and earnings/employment found in LEO. There is widespread interest within the industry in the potential to improve open data standards that could be applied to CVs and job advertisements.

4. Increasing inspiration and engagement

Improvements in data to support informed choice will be of limited value unless accompanied by efforts to increase the interest of young people in careers and their desire to know more. The Careers & Enterprise Company is actively engaged in this area and, following this work, is considering further research into the most effective ways to prompt young people to become more actively interested in exploring different career options. This would include looking at how LEO data could be used to inform targeting of personalised information to young people; and reviewing the role of the The Careers & Enterprise Company in promoting good quality information provision and helping signpost important information for young people.

Annex: Overview of information services

Below we describe a selection of online careers information services and give an overview of the market.

PwC reviewed forty-nine organisations and products that currently provide information services designed to help inform choices about careers, qualifications and jobs.

Each was characterised on a number of dimensions including the different types of choice supported – choice of qualification, choice of institution (e.g. university), choice of career (i.e. type of job) and choice of job (specific jobs). Eighteen organisations were then selected for more in-depth interviews.

The overview below is designed to give a view of the broad distinctions we can draw between different types of provider organisations, and within each of these, to give a sense of the variety of different services and organisations. This does not include all forty-nine identified. Comments that relate to the use of LEO data are based on the subset of organisations that were interviewed. Organisations were interviewed from all the groups identified below.

We have grouped organisations under three headings that relate to different areas of decision making. These groupings allow us to draw some broad outlines of the market by looking at how different services address the question of:

- Helping people find a job.
- Helping people find a qualification or educational institution.
- Helping people choose a career.

In the tables on page 28 and onwards, we have provided descriptions of those organisations which we considered to be of particular interest in each area. It should be noted that the majority provide services that address more than one decision point and almost all have ambitions to expand their services across a wider range of decision points.

1. Choice of job

The jobs search market has increasingly moved on-line. Within that space we can identify traditional media, in particular trade media, with a strong brand in particular job markets and newer online organisations. Below we list some of the more prominent organisations in this area. These are profit-making companies and earn revenues from employers by providing leads and applications. Some organisations that are focussed on other areas are making some efforts to move into this area – e.g. UCAS is starting to offer a graduate jobs service. One area of overlap between traditional job search sites and education search sites is the apprentice market which is of interest to organisations in both sectors. Some services allow stored searches and generate push alerts that inform users of jobs that are available. More innovative services are those that automatically put a market value on your CV. An area of particular innovation is the automated processing of CV information to identify an individual's skills in a consistent fashion.

Their primary interest in analysis of LEO data is being able to:

- Provide better information to users about future job prospects.
- Interpret the value of a CV more accurately, (i.e. for which jobs is this person best suited). That includes interpretation of qualifications information.

LEO data could support both of these functions. However, its value is limited because it does not code for jobs, only for industries. Consequently, it is unclear the degree to which it would enhance existing information sources for predicting future jobs, or estimating salaries or other characteristics of jobs.

This issue also reduces the value of LEO data in estimating the value of formal qualifications on a CV. While it is possible to see associations between qualifications and earnings, without information about the role that the individual is performing it is hard for the job market engines to interpret the information with sufficient accuracy. There is a view that more accurate estimates of the value of qualifications could be achieved by using information drawn from CVs (qualifications, jobs achieved and income as stated on CVs) and job ads (salaries offered for jobs, skills required for jobs).

The key information interests of this sector are:

- Greater standardisation of information on CVs and job ads to improve the efficiency of search.
- Getting beyond qualification data to skills information.
- Economic information about the future job market.

Some organisations expressed an interest in working with government to share information in order to improve the quality of data in these areas. It was recognised that such efforts would likely benefit the market as a whole rather than organisations individually and consequently this was regarded as activity that would need to be publicly funded rather than something that individual commercial organisations would fund themselves.

Organisations primarily interested in supporting job finding/recruitment

Provider	Status	Primary revenue-generating activity	Brief summary of offering	Primary user channel
Adzuna	Profit-making	Advertising and recruitment for employers or institutions	Job search engine. For live jobs listed on site, provides analysis of: <ul style="list-style-type: none"> – Proportion of jobs available by region. – Proportion of jobs in different salary bands. – Average salary for a job title, location or company vs average salary of all job listings. 	Directly to all members of public
Jobs.ac.uk	Profit-making	Advertising and recruitment for employers or institutions	Job search engine for academic, science, research and administrative employment. New offering https://college.jobs.ac.uk/ contains job listings for FE sector.	Directly to all members of public
Milkround	Profit-making	Advertising and recruitment for employers or institutions	Student and graduate job search engine and careers advice site. Users can research sectors and employers and specific job opportunities. http://schoolleavers.milkround.com/ is a job search engine and career resource portal for school leavers.	Directly to young people
Monster.co.uk	Profit-making	Advertising and recruitment for employers or institutions	Job search engine and careers advice site. Key search dimensions are industry and location. Partners with PayScale to provide salary information: <ul style="list-style-type: none"> – Average UK salary by gender, years of experience, company size, location (city), industry. – Expected salary calculator based on job title, expected location and years of experience. 	Directly to all members of public
Total Jobs	Profit-making	Advertising and recruitment for employers or institutions	Primarily a job search engine, also offers a course search tool in 'total jobs learning zone' and careers advice and tools. Offers a career matching tool based on The Holland Codes/Holland Occupational Themes.	Directly to all members of public
We connect students	Profit-making	Advertising and recruitment for employers or institutions	Graduate recruitment platform where students create a profile then employers use a search tool to identify and contact students.	Directly to young people

Source: PwC

2. Choice of careers and qualifications

This part of the market is less well developed than the job search market with a wider range of more diverse services. We have listed here a range of organisations with a significant focus on careers and/or qualifications but many have as much interest in helping people find jobs or institutions. The organisations listed here are, in the main, smaller than those focussed on job search. The job search sites listed in the last section typically have 3-10 million monthly visitors whereas the careers focussed sites will typically have 50-200 thousand visits per month. There are exceptions, however, such as the NCS which has over 2m visitors per month and Prospects, which is as much a job search site as a careers site. There is a mix of profit and non-profit making organisations. Most are focussed on people in education or leaving education. Some are designed for adults also.

Some services in this area are network-driven – aiming to link young people with former alumni, local employers or others able to provide advice. Others aim to provide information online. Of the latter group, some are strongly data-driven – e.g. iCould, Plotr or Prospects. They use information about people's personality and interests to identify relevant careers or roles.

The data-driven organisations in this market segment are among those that have most interest in the potential to use LEO data to inform young people from all those that were interviewed. They have a particularly strong interest in using the data to understand what outcomes are associated with different educational routes and what routes are associated with different outcomes.

Most organisations in this area are primarily interested in choice of publicly funded education (FE, HE, Apprenticeships). A minority are interested in choice of 'self-driven' and self-funded educational opportunities.

Organisations focussed on choice of career or qualification

Provider	Status	Primary revenue-generating activity	Brief summary of offering	Primary user channel
All about group	Profit-making	Student-directed campaigns	<p>Based on the premise that young people need to start thinking about careers earlier and employers need to engage talent earlier. Relevant services are:</p> <p>AllAboutCareers.com – career explorer tool with qualitative information and video content on sectors, career test and specific job postings.</p> <p>AllAboutSchoolLeavers.co.uk – advice for post-GCSE and post-A-level apprenticeships, FE study and jobs and specific job postings.</p> <p>MyCareerSpringboard.org – free careers guidance tool for school and college students.</p>	Directly to young people
Directions (Financial & Legal Skills Partnership)	Non-profit-making	Funded by industry body	Online careers service for the financial and legal sectors. Information and opportunities for school, college, university and industry entrants into finance and law.	Directly to young people
Fasttomato	Profit-making	Services for schools or colleges	<p>Careers guidance programme for students choosing A-Levels and above. Provides information on education options and sets out 'what you need' to be able to reach a certain career e.g. if I want to be a veterinary surgeon I need 'x' GCSEs, 'y' A-levels, 'z' degree, work experience, etc.</p> <p>Preferences questionnaire based on interests, personality/style, situation, priorities from a career. Recommends subjects, courses and careers based on results.</p>	Schools
GCG Changeworks	Non-profit-making	Investors	Offerings for employers and 'careers explorers': employers need access to talent and young people need access to careers information that allows them to match their skills and talents with careers. 'Careers Aviator' for young people is still in development stages but is intended to allow users to search by subject or by their strengths and skills.	Directly to young people
Horsemouth	Non-profit-making	Funded by partners	Provides access to mentors by topic: choosing a career, getting a job, changing career, work-life balance, working relationships, starting a business, rights at work.	Directly to young people

National Careers Service	Public sector	Government funded	<p>The NCS was launched by the Coalition Government to provide independent and impartial information and advice on learning and work. Services include:</p> <ul style="list-style-type: none"> - Information and advice, e.g. job profiles, information on apprenticeships. - Search engine tools for courses and jobs. - Career tools e.g. CV builder, skills health check. - Provides job market information by sector and region including: median income, skills shortages, employment forecast. <p>The NCS is targeted both at young people (specific section/content for 13-19s) and adults.</p>	Directly to young people
Not going to university	Profit-making	Advertising and recruitment for employers or institutions	<p>Provides advice on all options outside of going to university. Advice centre with FAQs, articles and guides; search engine for non-university options including apprenticeship vacancies, HE courses, gap year activities, etc.</p>	Directly to young people
Plotr	Non-profit-making	Funded by partners	<p>Offering is based around a 'gamified' psychometric test that maps users to 700+ career/job profiles based on their personality, interests and skills.</p> <p>Plotr also provides:</p> <ul style="list-style-type: none"> - Advice and resources on careers and post-16 options. - Search engine for jobs, apprenticeship vacancies and work experience. 	Young people and schools
Prospects	Profit-making	Advertising and recruitment for employers or institutions	<p>Core offering is search engine for graduate jobs, internships and postgraduate courses. Also provide careers advice and information e.g. job and employer profiles, CV and interview tools. Career quiz matches skills, motivations and desires to job profiles.</p>	Directly to young people
Rise to	Profit-making	Advertising and recruitment for employers or institutions	<p>Describes itself as a 'career accelerator' to match young people to businesses. Currently in beta stage and operating in London. Provides job search engine and careers advice, primarily articles.</p>	Directly to young people
Sacu-student	Profit-making	Student-directed campaigns	<p>Research tool for careers, HE courses and apprenticeships. 'Labour Market Explore' provides information by occupation on salary, employment projections supported by LMI for All/Burning Glass; 'Subject Explore' shows possible careers, employment after graduation, salary by subject. 'Spartan test' is an image-based quiz to map your interests to careers and subjects.</p>	Young people and schools

Skills Route	Profit-making	Subsidised by other commercial activities	Intended to help young people explore all the options that are open to them post-GCSEs. Users can see how their choices and results will affect their future options. Presents dimensions of future careers such as suitability to chosen subject and FE/HE courses, starting salary, salary at 35, job satisfaction.	Parents
Success at school	Profit-making	Advertising and recruitment for employers or institutions	Careers advice and job/course/other opportunity search engine. 'Career zones' provide information on different industries and what you need to get there including GCSEs, A-levels, degrees, apprenticeships.	Directly to young people
BestCourse4me	Non-profit-making	Funded by partners	Help students to explore what A-levels or university courses are right for them based on selecting a career and finding out what's needed or on exploring study options.	Directly to young people

Source: PwC

3. Choice of institution

A number of organisations provide information resources that are aimed at supporting choice of institution for 18+ education.

These providers are mainly focussed on choice of university. A subset is primarily interested in helping widen access to university. Most are focussed on supporting more informed choice of university either by creating university rankings or by creating search tools that allow institutions to be filtered according to user determined criteria and then ranked.

About half the organisations identified in this area are profit making. UCAS plays a particularly important role in this space as it administers the application process.

Among those interviewed, there was significant interest in LEO data's potential to provide data about longer term earnings outcomes, as well as analysis of 'value add' and return on investment for different qualifications or institutions.

Organisations primarily interested in choice of institution

Provider	Status	Primary revenue-generating activity	Brief summary of offering	Primary user channel
Bridge U	Profit-making	Services for schools or colleges	University preparation platform for schools. Includes tools for students (find and research university options, prepare materials to be submitted) and teachers (prepare references, set tasks for students, monitor progress). Draws on data such as cost of living data, rankings, student satisfaction to inform students.	Schools
Push	Non-profit-making	Unclear	University guide based around 'Push Talks' university and careers talks for schools and 'Uni chooser' tool which allows you to shortlist universities by course, location, grades and preferences.	Young people and schools
TES Global	Profit-making	Multiple services for businesses and individuals	Digital education company established to supporting teaching and learning. Their mission is to help improve performance and standards in education by: <ul style="list-style-type: none"> - Supporting teachers (via online teacher network - currently circa 8 million registered users). - Providing higher education data and analysis including the Times Higher Education World University Rankings. Products include teacher and higher education recruitment services, Times Educational Supplement magazine, online learning, digital sharing platform.	Schools
The Access Project	Non-profit-making	Funded by partners	Tutoring/mentoring programme to support state school students to improve their grades and get into 'top' universities. Matches schools with local businesses who volunteer through the programme.	Schools
The Complete University Guide	Profit-making	Student-directed campaigns	Provides league tables, university and course profiles to help young people think about and plan for university. Information on universities/courses includes e.g. student satisfaction, graduate prospects. Primary quantitative data provided are league tables.	Directly to young people
The Guardian	Profit-making	Multiple services for businesses and individuals	Education section of The Guardian media site includes education news, higher education network, teacher network, university careers, university guide and university awards. University guide has university league tables (by institution) and course search capability.	Directly to all members of public
The Student Room	Profit-making	Student-directed campaigns	Primarily a student forum for peer to peer support and advice, also offers information and advice articles.	Directly to young people

UCAS	Non-profit-making	Student-directed campaigns / application fees	Primary function as university application service. Also offers advice and information on exploring, choosing and comparing and planning for university. 16-18 section provides information on post-16 options including apprenticeships, qualifications and careers. Careerfinder tool is search engine for specific job opportunities. Buzz quiz matches your strengths and preferences to potential careers (using iCould Buzz quiz).	Directly to young people
U-Explore	Profit-making	Services for schools or colleges	Teacher resources and services for schools, including software for education/career research (job profiles, option comparison, work preparation tools), training and support, Pathways Tracker destination/ progression tracking tool.	Schools
Unifrog	Profit-making	Services for schools or colleges	Pathway comparison tool and search engine for university courses, FE and apprenticeships. Features include: <ul style="list-style-type: none"> - Matching opportunities to students' performance. - Comparison of opportunities on multiple dimensions including employment rate, completion rate, happiness index, etc. - Career context e.g. job prospects and earnings potential related to qualification choices. - Supports schools' tracking of individuals and groups (form/year). 	Schools
Unistats	Public sector	Government funded	The purpose of Unistats is to ensure that prospective students and their advisers have access to robust, reliable and comparable information to help them make informed decisions about what and where to study. To do this it builds a Key Information Set (KIS) for each institution based on information found (through research) to be most valuable to students. Includes a tool to 'create a custom view' of the data that is most important to the individual user to compare courses.	Directly to young people
What Uni	Profit-making	Advertising and recruitment for employers or institutions	Course search and comparison site, primarily for HE but also some FE (HND, foundation degrees). Allows user to search by career or by subjects being studied. Provides employment information for courses – common industries, common jobs, salary range. Provides information on applicant success rate for specific courses. Hotcourses is a course search engine for HE, FE and apprenticeships.	Directly to young people
Which University?	Non-profit-making	Subsidised by other commercial activities	University course search and comparison site. Includes university profiles, subject guides, course search tool, course search by A-level subject choice tool. Provides employment information for specific courses – employment rate, average salary, destinations of graduates.	Directly to young people



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