euacde COUNCIL FOR DOCTORAL EDUCATION

Tracking the careers of doctorate holders

EUA-CDE Thematic Peer Group Report

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Introduction

Over the last two decades, the number of doctoral degrees awarded has doubled in many universities around the world. Meanwhile, the number of permanent academic positions is not growing fast enough to meet demand. Where do all the doctorate holders end up? A working group of representatives from 14 member institutions of the European University Association's Council for Doctoral Education (EUA-CDE) met over the course of 2019 and in early 2020 to discuss the question of how to track the career paths of doctorate holders. This publication presents the main findings of the EUA-CDE Thematic Peer Group on "Career Development and Tracking in Doctoral Education". EUA-CDE established this working group to discuss the importance of collecting career data in doctoral education and to explore the different career-tracking approaches in place, as well as the main challenges encountered during the implementation and development phases.

In recent years, the European University Association has published several reports on the development of doctoral education in Europe. The latest of these, "Doctoral education in Europe today: approaches and institutional structures," released in 2019, showed the increasing activity of universities in collecting data about the career pathways of doctorate holders. However, this report also showed that universities' commitment in this field was often in the initial phase, with only 43% of the responding institutions having implemented career-tracking methods in most of their doctoral programmes. Indeed, this issue received a lower response rate compared to other questions, demonstrating that the topic had not been widely approached by the universities that participated in this survey. However, the discussion with the members of the EUA-CDE Thematic Peer Group revealed that there is an increased sensitivity about the importance of career-tracking activities and the vast majority of universities and national research systems are already collecting data and insights about the career paths of doctorate holders.

To advance these efforts, EUA-CDE decided to establish the Thematic Peer Group on "Career Development and Tracking in Doctoral Education". This is one of several Thematic Peer Groups at EUA that meet several times over the period of one year and consist of representatives of member universities, which bring expertise in a certain thematic area.

Other stakeholders active in this field perceived the timeliness of this topic as well. For instance, in November 2017, the Council of the European Union recognised the need to collect quality information about the career performance and trajectory of doctorate holders. In 2017, the European Science Foundation published the findings of its second career-tracking survey on the employment and professional integration of doctorate holders in nine organisations. Currently, the theme of career tracking in doctoral education is also addressed in the framework of the DocEnhance project.

This project, coordinated by the Arctic University of Norway, is funded under the Horizon2020 SwafS call "Research innovation needs & skills training in PhD programmes" and is aimed at enhancing transferable skills training and integrating it into existing doctoral programmes. The original call required the inclusion of postgraduate tracking exercises in the proposal. This clearly indicates the relevance of this topic at the European level.

In 2012, together with other institutions, EUA drafted a report providing an overview of the tracking activities developed by higher education institutions and national bodies in Europe, in the framework of the "Tracking Learners' and Graduates' Progression Paths" project.[1] This study focused on Bachelor and Master students and underlined the fact that not all universities with career-tracking systems in the first and second study cycles extended it to the level of the doctorate. To give an example at the national level, Vitae published the series "What do researchers do?" between 2009 and 2013, which aimed at providing extensive information on the career paths of doctorate holders in the UK.

The following first sections of this report focus on why universities are interested in tracking the careers of doctorate holders, provide an overview of current career-tracking methods at national and institutional levels and discuss potential pitfalls associated with them. In addition, the report presents examples from different universities that highlight a variety of ways of tracking the careers of doctorate holders. These examples are spread throughout the report.

This exchange about the multiple career-tracking activities that European universities have developed in recent years provides opportunities for mutual learning in this field. This publication offers insights and a basis for reflection for universities planning to collect data on career paths of doctorate holders. It also provides background information for institutions interested in developing their own career-tracking strategy or in improving existing methods for tracking. This paper will also investigate the technical, organisational and legal limits of tracking exercises.The

1 In this report, tracking is defined as "all systematic approaches that higher education institutions put in place to follow student career paths during studies for a qualification, entry of graduates into the labour market and their progression within it; and entry and progression of graduates into other educational programmes", p.19.

Why address career tracking?

career tracking of doctorate holders can inform institutions about different career pathways, as well as provide understanding about the labour market. In addition, institutions gain important insights through career tracking. Evidence-based information can support universities in communicating with policy makers and the general public about the contributions of doctoral education and doctorate holders to society. Finally, institutions receive information from career-tracking surveys that allow them to develop and improve or adapt doctoral training, thus harnessing important insights to assure the quality of doctoral education.

Doctoral candidates will follow diverse career paths after obtaining their doctorate. The rising number of doctorate holders in the last decade has led to an increase in those who develop their careers outside of academia. Hence, career paths outside of academia have gained additional importance and are increasingly not perceived as alternatives, rather – in many countries – as the most probable career path of a doctorate holder. What is more, societies need highly skilled knowledge workers. To support doctorate holders in their career development, universities are collecting more and more information about these career paths. Career tracking can provide the figures and insights needed for a better understanding of the employment landscape and possible career paths. It provides relevant information on the labour market's development and informs doctoral candidates and prospective candidates about how their future could unfold. Career tracking can also provide realistic prospects to better understand the potential effect of a future doctorate on the professional development of doctoral candidates. At the same time, tracking after the doctorate must be interpreted against the backdrop of the purpose of the doctorate and the range of expectations and career aspirations, which may vary widely between disciplines and individuals.

At the same time, conducting research on the career outcomes of doctorate holders can support universities in building a comprehensive case for the doctorate and demystify the often encountered perception that doctorate holders will not find appropriate employment outside academia. Informing prospective doctoral candidates about the variety of career pathways, and showcasing success stories from their peers, can also increase the attractiveness of the doctorate and serve as a tool to lower the fear that a doctorate will result in unemployment and financial risk. Concrete evidence and information on the career performance of doctorate holders also supports funders in evaluating the benefit of schemes supporting research development. Additionally, tracking helps universities attract public investment in doctoral education and training as it shows the economic and societal contribution of doctorate holders.

In this regard, career tracking can also provide insights into the development of skills training and other aspects within doctoral education. By including qualitative questions in graduate surveys, doctoral schools can obtain an overview on the value of doctoral degrees within and beyond academia. They can also ask specific questions about the relevance of acquired skills and competences for the career progression of doctorate holders. As a consequence, insights from career tracking can support universities in tailoring their career guidance services to be in line with the needs of doctorate holders and postdoctoral researchers. Having a career-tracking system in place can, thus, provide universities with evidence-based information that contributes to strategic discussions on the development of doctoral programmes.

Lastly, the doctorate is essentially an academic qualification awarded for scientific work that entails the "advancement of knowledge through original research", as it is formulated in the so called Salzburg Principles from 2005. This, in itself, contributes to the case for tracking. Tracking can help to facilitate the transfer of academic expertise to the benefit of society, as it demonstrates the different ways in which this happens. The strong awareness of the need to support meaningful and satisfying careers has, thus, led to career tracking being at the centre of intensive discussion.

Overview of career-tracking methods

This section presents several career-tracking methods for doctorate holders implemented in the institutions represented in the Thematic Peer Group. It highlights both national- and institutional-level methods, their relative limitations, as well as some examples of good practice. The Thematic Peer Group identified A) graduate surveys and exit polls, B) national graduate surveys C) surveys based on register data and D) digital alumni platforms as the main sources of information for tracking careers of doctorate holders. The following section will briefly describe these four approaches, focusing on their purposes, actors and limitations, and ultimately providing an overview on different tracking methods in Europe.

A) GRADUATE SURVEYS AND EXIT POLLS

Graduate surveys are questionnaires developed by doctoral schools or faculties on an institutional level and delivered to doctorate holders in written form or by means of an oral interview, most commonly over the phone. While a significant variety of tracking activities can be found, they take place, in general, approximately six months to one year after graduation. At some universities, these surveys are also submitted to doctorate holders three to five years after the completion of their doctorate with the goal of measuring the longitudinal pathways of career progression.

The questionnaire usually addresses the employment situation of the doctorate holders when they are surveyed, but also asks how they evaluate the acquired skills and experience during their doctorate in the light of their current occupation. It thus provides information on how doctorate holders perform initially on the labour market through qualitative information and captures their current employment status. The questions formulated in this regard focus on the type of contract, the income, the main factors that contributed to gaining employment and the relevance of the skills gained during the doctoral training for the current job. In addition, these surveys often include questions on the satisfaction of doctorate holders and are therefore used by doctoral schools as indicators for their programmes and curricula and what could be adapted. In principle, such surveys could also cover other areas like post-graduation societal engagement or the value of networks built during their training.

Another type of surveys is an exit poll, conducted immediately after graduation. In exit polls, doctorate holders are invited to provide information about their intentions with respect to future study and employment decisions, while also describing self-perceptions about the quality of the doctoral training received. What makes these questionnaires different from the graduate surveys lies in the fact that they collect data about the plans of doctorate holders after graduation. They do not provide information about the work paths of doctorate holders, but about their career aspirations. Thus, they are intended to provide an immediate evaluation of the experience within a doctoral school. Exit polls play an important role within institutions in maintaining and enhancing the quality of doctoral education. These polls are usually carried out at the level of individual doctoral programmes or doctoral schools, which usually bundle a series of doctoral programmes under one roof.

Purposes

Institutions use these two career-tracking methods for a variety of reasons. In particular, the members of the Thematic Peer Group identified the following two purposes:

The results of graduate surveys are frequently used to inform prospective doctoral candidates and the public about where doctorate holders of a particular institution and discipline develop their careers. The findings can help prospective doctoral candidates to make an informed decision about whether to start a doctoral programme at a particular university. Furthermore, universities have been reported to use graduate surveys and exit polls to update their career guidance services and doctoral training activities in order to better prepare their doctoral candidates for careers both inside and outside of academia and to enhance the acquisition of other transferable skills. In addition, doctoral schools and doctoral programmes gain qualitative information on the market attractiveness of their alumni, the relevance of their curricula, and which skills were especially important in obtaining a particular position in a certain sector. Likewise, these surveys may help doctoral candidates or prospective doctoral candidates to better understand some of their contributions to industry or another sector.

Graduate surveys and exit polls are commonly used to provide information about the quality of doctoral programmes and to inform or improve curricula of doctoral study programmes when deemed necessary. They are also used to gather information on thesis supervision, which can be used to work with faculty members on their supervision skills. Graduate surveys can be related with exit polls and it can be discussed to what degree they match the profile of the institution. They are also a way to make sure that the voices of the doctorate holders are heard; the offered services within an institution can therefore increase in quality.

> The Universidad Autonoma de Madrid (UAM) monitors the employability and the labour market entry of doctorate holders via an online graduate survey, 12-18 months after graduation, which includes exit poll questions. The main goal is to obtain information about the employment situation of doctorate holders and to have a deeper understanding about their degree of satisfaction with the doctoral training received in view of their current job.

Actors

Actors involved in graduate surveys and exit polls include faculties, doctoral schools and doctoral programmes.

Limitations

There is an inherent risk that respondents with a high level of satisfaction or dissatisfaction from their doctoral journey will have a higher rate of participation in these surveys, which will, in turn, lead to a bias and decrease the representativeness of the results. If respondents fear that the exit poll, for example, is not anonymous, they may also decide to avoid subjective questions about the quality of the doctoral training when replying.

Moreover, these types of surveys also include the respondents' assessments and opinions, which brings to the risk of obtaining less reliable data with regard to employment and the labour market. Second, in many European universities, the response rate of graduate surveys and exit polls is quite often reported to be low, at between 10-30%. Graduate surveys are usually very extensive and require a considerable amount of time to be filled in. In general, the readiness of individuals to respond to such polls decreases with time after the doctorate. Nowadays, people receive a considerable number of requests for feedback and this contributes to "survey fatigue", which leads potential respondents to completely ignore the request for feedback. Some doctorate holders may choose not to answer the survey, as they lack attachment to the institution or feel that the results may not really have the potential to change anything. One way to overcome this difficulty is to inform respondents that they will be able to access the feedback collected and possibly compare their replies with those of the previous years.

Members of the Thematic Peer Group highlighted on repeated occasions that data privacy laws and regulations need to be respected no matter what kind of survey is being conducted. To conduct graduate surveys or exit polls, universities need to make sure that they comply with existing legislation on general data protection (GDPR). While this is not a limitation per se, it must be taken into account and can limit the kind of data that could be collected and its use.

> The University of Turin launched a project in 2018 aimed at investigating the career outcomes of its doctorate holders up to 10 years after the end of the doctorate. The project focused on three main activities, namely a career tracking survey, success story interviews and the collection of career information from social networks. The outcomes of this pilot study demonstrated the benefit of continuing this exercise in the future, which would provide a continuous benchmarking for the doctoral schools at this university and evidence-based data in this field.

Finally, this system based on graduate surveys and exit polls introduces an additional cost for universities as it requires them to keep an up-to-date contact database. To collect representative data, institutions need to have e-mail addresses or telephone numbers, two of the most common types of contact information held by universities, which always comes at a high cost both in terms of financial and human resources. If universities want to generate a high response rate, these types of surveys are particularly labour intensive.

Comparability of data is also a limitation – given the broad scope of disciplines at universities and the wide range of disciplinary "culture" as to where doctoral candidates land after completion. Data may vary widely and the global average gives a skewed picture of different disciplines. Relative comparison of the evaluation scores given to different questions about the quality of and the experience with the doctoral training may nevertheless be very useful to detect strengths and weaknesses in the doctoral training programme, and to identify priority actions for improvements.

> KU Leuven conducts exit polls for the doctorate holders of its three doctoral schools. This includes the Humanities and Social Sciences doctoral school, the Science, Engineering & Technology doctoral school and the Biomedical Sciences doctoral school. They address issues such as the quality of doctoral training received, the support provided by supervisors and the existing activities offered by the university regarding career development. By carrying out these exit polls, KU Leuven aims to maintain the high quality of the doctoral programmes offered and promote their services to potential and incoming doctoral candidates.

B) NATIONAL GRADUATE SURVEYS

National (and sometimes cross-national) graduate surveys are often conducted by national bureaus of statistics, as well as other entities such as research institutions. This career-tracking system provides insights into the current employment situation of doctorate holders, their experiences and views on the completed doctoral programme, as well as other relevant information. In addition, they provide statistics that can be included in broader analyses of the education and research landscape, as well as labour markets. As opposed to the narrower focus of graduate

surveys on quality assurance and the success of graduates from a particular institution in the labour market, the national surveys aim to provide more long-term and national information on the labour market and doctorate holders' success within.

These questionnaires are also used to collect feedback on issues like the doctorate holders' level of employment since graduation, the type of employment obtained and whether there is a close link between their working position and the obtained qualification. In addition, these surveys are national attempts at providing data on doctorate holders' assessment regarding the doctoral programme followed. However, unlike institutional graduate surveys, national surveys do not focus on specific programmes, but provide an overview by field of study.

National graduate survey results are usually made available to the public and receive much attention from university leaders responsible for doctoral education, career advisors, prospective doctoral candidates, funding agencies and other stakeholders active in the area. In many European countries, career data from the national surveys can be extracted at the institutional and faculty level. The majority of the universities represented in the EUA-CDE Thematic Peer Group reported that these studies are conducted on a regular basis, as they are launched every year or several years after graduation. They are a cost-effective way to gather comparable information from different institutions. Some examples include the Italian ISTAT survey, surveys conducted at the Swiss Federal Statistical Office and the Irish Graduate Outcomes survey conducted in individual higher education institutions on behalf of the Higher Education Authority.

Purposes

The tracking of career data for doctorate holders at the national level is commonly used to obtain information on the transition into the labour market, as well as to follow the career performance of doctorate holders. In addition to providing nationwide feedback on the doctorate holders' degree of satisfaction with the delivery of doctoral programmes, these surveys are widely used by higher education institutions to illustrate the variety of career paths available for doctorate holders outside the academic world. These latitudinal studies also include further questions about the health and mental health status of doctoral candidates, the level of mentorship and supervision, their family situations and sociodemographic information.

> Since 2017, the German Centre for Higher Education Research and Science Studies (DZHW) has conducted Germany´s largest study on doctoral candidates and doctorate holders, called the National Academics Panel Study (Nacaps). Through annual online surveys, the study examines the reasons for starting a doctoral programme, career goals after graduation, as well as the general living conditions of doctoral candidates. In 2019, more than 20,000 respondents from 53 German universities completed the survey.

National surveys also cover other objectives by contributing to general statistics, providing evidence on whether doctoral education enabled respondents to progress towards their desired career goals and by contributing to discussions on the allocation of funding.

These surveys are a useful tool for evidence-based policy making as they provide a comprehensive picture about the career paths of doctorate holders based on their own responses to the questions provided, thus giving a qualitative analysis.

> Since 2016, the French Ministry of Higher Education and Research (MESRI), the Conference of University Presidents and the Conference of Directors of French Engineering Schools, have implemented the IPDoc national career follow-up survey. It is offered every year to all French institutions, but it is mandatory only every two years. The survey is conducted on an annual cohort of approximately 14,000 doctorate holders. The response rate is 52% at the national level.

Actors

The actors involved in developing national graduate surveys are the bureaus of statistics, survey agencies, research institutions, as well as national higher education authorities.

Limitations

A commonality that national-level surveys share with institutional graduate surveys is the low response rate, which questions the representativeness of the collected data. As questionnaires cannot be too extensive, the questions need to be relatively generic, making it more difficult to respond to more specific questions such as issues related to disciplines.

A second limitation of these surveys refers to the lower reliability of the collected data when compared with register-based data,[2] as national surveys draw on qualitative insights such as respondents' assessments and replies, rather than "hard data" derived from registers.

Thirdly, national surveys are not likely to adequately represent people employed in the informal "gig economy" or who have another informal status, as the information about their work status may not be fully represented in the available datasets.

Moreover, those doctorate holders who leave the country where they completed their doctorate and change their contact details, cannot be covered by the national graduate surveys.

Finally, the necessity to comply with data protection laws, whose legal provisions, despite some common frameworks like GDPR, can be more or less strict depending on the European country in question, constitutes another important limitation for those national bodies wishing to implement this system.

2 See upcoming section C.

C) SURVEYS BASED ON REGISTER DATA

Surveys based on register data are the result of a combination of administrative data and data collected at the university at the moment of enrolment. This can be subsequently expanded to include additional information (e.g. name, date of birth, gender, social security number, matriculation number, prior education). This data can be matched in an anonymised form with register data, obtained from public registers and official statistics such as social insurance or residence data.

Purposes

Universities use register-based analysis to track the entry of doctorate holders into the labour market, as well as to collect information regarding their employment situations, such as the sectoral allocation, income perceived and the search duration. Data gathered through this career-tracking system represents an important basis to attract external funding for doctoral education. The results of this tracking practice are also useful in showing the effect of a doctorate on income level.

This approach covers the full sample of all doctorate holders in a given country and thus gives a comprehensive picture of their professional integration after graduation. This type of survey also provides information on time to degree and drop-out rates, as well as trends and projections of the labour market. By using register-based data, universities have access to comparative data for similar doctoral programmes that are delivered in the same country. As opposed to the national surveys, these types of surveys are not based on qualitative data, but on numbers derived from the statistics bureaus, as well as institutions. This data provides evidence for a narrative to promote doctoral education on a national level.

> In 2006, the University of Vienna in collaboration with Statistics Austria developed a career-tracking system based on register-data analysis. The main purpose is to observe the career pathways as well as the labour market integration of its graduates, including doctorate holders, in the first five years after the completion of their doctoral studies.

Actors

The actors involved in developing surveys based on register data are national bodies, such as national statistics bureaus, in collaboration with university quality assurance units.

Limitations

There are some limiting factors to this method. In particular, this tracking system cannot collect career data of doctorate holders who left the country after graduation for work-related or study reasons. Since this tracking method is based exclusively on data derived from national registers, its overall findings only showcase the career entry profiles into the national labour market.

One of the great advantages of this method – the use of objective data – is also one of its main limitations. By relying on national registers, universities cannot conduct a qualitative analysis or issue qualitative assessments regarding the satisfaction with the doctoral training received, the quality of the current job position, and the relevance of the doctoral programme for the position obtained.

The tracking system using register data cannot differentiate certain disciplinary singularities, such as particular characteristics concerning career entry in certain domains (e.g. law clerkships, teaching internships, residencies etc). To avoid incorrect conclusions, data obtained from these doctoral programmes require a very careful and accurate analysis and interpretation. This is also needed for small doctoral programmes, where the findings are the result of register data drawn from a low number of doctorate holders.

> In Poland, graduate tracking is carried out at the national level by the Ministry of Science and Higher Education within the Polish Graduate Tracking System (ELA), which monitors how graduates are doing on the labour market, including their employment status and level of wages. The main sources of information in the system are administrative registers, including the register provided by the Social Insurance Institution and the National Register of Graduates. Starting from 2020, the ELA system also monitors the career paths of doctorate holders five years prior to the beginning of the doctoral studies and during the first fifteen years after graduation. The system monitors their activities in the labour market and their scientific careers.

D) DIGITAL ALUMNI PLATFORMS

Digital alumni platforms are web-based applications that help institutions establish and maintain a community of alumni, as well as foster identification with one's alma mater. These tools can be created in-house by the institution, can be custom-built by a digital services agency, based on a private alumni platform provider or commercial career networks like LinkedIn. These tools allow alumni to stay in touch with their previous institution and be informed about the latest updates. In addition, through these community-building platforms, institutions try to give back to alumni as well, for example by enabling them to grow their network. Additionally, a considerable number of platforms have a functionality that allows universities to post job vacancies and provide mentoring services. They can also serve as a networking tool for doctorate holders, equally addressing peers, experts in the field and future employers.

Purposes

Digital alumni platforms offer a digital component to the alumni services, optimising their online presence and providing the opportunity to stay in touch with former doctoral candidates. They can maximise the outreach to the alumni community, increase the interest of doctorate holders to participate in

surveys and questionnaires and serve as a basis for a new digital communication strategy. Differently from the approaches for tracking that concentrate on the collection of statistically significant data, digital alumni platforms mainly aim at developing a sustainable relationship between the university and the doctorate holders and support institutions in building a community of alumni.

Digital alumni platforms can be a useful tool in reducing the administrative burden of alumni services and provide universities with the opportunity to concentrate all alumni data and information in one single place.

If adequately designed and only if alumni update their profiles, this system can also be used to collect data about the career outcomes of doctorate holders.

Actors

The actors developing digital alumni platforms include staff from alumni services.

Limitations

Digital alumni platforms are useful tools that can be designed to obtain better information and relevant data on registered users. Universities can define the type of information they want to receive from users when developing these platforms, including career information, but this kind of data heavily depends upon whether alumni keep their profiles updated and is thus not as reliable as graduate surveys. Despite the availability of this feature, it can be difficult for institutions to attract users and engage them for long periods, especially in the first phases of the platform development. At many universities, including Riga Technical University, the relative low percentage of registered alumni and, consequently, the low degree of representativeness of collected data, limit the possibility of conducting studies on the career pathways of doctorate holders. The limited data analysis options within the system is another limitation for the collection of career data.

> RTUconnect is the digital alumni platform developed by Riga Technical University in 2018 to maintain contact with graduates of all academic levels and to offer alumni a space where they can keep connected to the university and find support for their career development.

The maintenance and moderation of these platforms also represents a limiting factor as it demands significant effort from universities.

The possibility for the user to synchronise these digital tools with other webpages used for professional networking is an important advantage. If this synchronisation is established, then the data on the career progression of doctorate holders will be transferred to the alumni platform. Currently, however, if the user inserts new information in the online career network, the automatic synchronisation of accounts is not possible and this information needs to be inserted manually by either the user or the platform administrators.

The reliance on commercial solutions is yet another limiting factor. More specifically, the use of digital alumni platforms that enrich their career dataset through online career networks runs a series of risks in terms of data protection as personal data is managed by a private company; reliability as these online providers can change/restrict or end their services at any moment and are not accountable for what they offer; and transparency as institutions are not informed about the way in which data is being used and stored.

A major challenge of this method refers to the compliance with existing legislation on personal data protection, which, in many countries, restricts institutional access to the administrative data of doctoral candidates. Privacy regulations lead to the need for universities to communicate clearly that privacy laws are respected. To set up such a platform, universities first need to make sure that they receive the permission to use the personal data of doctorate holders. During the Thematic Peer Group meetings, the members indicated that the most common way to obtain this approval was to request doctoral candidates' consent during the enrolment process or when signing up to an alumni association.

Suggestions for tracking the careers of doctorate holders

The members of the EUA-CDE Thematic Peer Group came from many different higher education institutions across Europe, and their experiences with career tracking were very diverse. Institutions, doctoral schools, doctoral programs, alumni services, quality assurance units and countries conduct surveys for different reasons and needs. Therefore, there cannot be a "one-size-fits-all" approach to tracking and each university needs to develop career-tracking practices and strategies that fit its individual needs. However, from the discussion in the group and following this overview of different approaches and practices, there are some useful principles that can be taken into account when developing tracking practices. While this is not a "recipe book", the following relevant points can feed discussions and lead to more robust tracking.

CLARIFY THE SPECIFIC INFORMATION SOUGHT AND ITS PURPOSE

The discussions and work of the Thematic Peer Group made clear that the careful consideration of the methods, timing, scope and type of tracking exercise is essential. One needs to reflect on the expected outcomes of a tracking exercise to assure that the right approach is chosen. It is important to have a clear idea of the purpose of tracking, as well as a vision of the kind of information and insights one is looking for, in order to avoid possible disappointment and ensure the right allocation of resources. Different tracking methods lead to different kinds of data and serve different purposes. It is also important to be aware of the availability of financial resources and personnel to determine what is possible and what not.

PLAN THE PROCESS AND INCLUDE ALL NECESSARY STAKEHOLDERS

Careful planning is critical to obtain good results with career tracking. If surveys are carried out too soon after graduation, they may not provide enough information about the long-term career developments of a doctorate. However, they may give insights for the purpose of quality assurance and adapting curricula. If they are conducted too late, it may become increasingly difficult to attract the participation of an appropriate number of doctorate holders. Overly detailed surveys may prevent respondents from answering all the questions, while too few questions may not give the full picture. Good planning and communication are also important as many different stakeholders and services within the institutions are involved, such as career centres, legal advisors, quality offices, alumni organisations and services, IT and many others. The exchange with other services at universities can also provide insights about already existing activities done by the institution. In addition, external actors, like national statistic bureaus and employers, should be included in the process when necessary and useful. Lastly, when planning to track careers, universities should be aware that other institutions are already dealing with this issue and make good use of their experience.

UNDERSTAND THE LIMITATIONS OF THE DATA YOU WILL RECEIVE

No database or survey will provide full insight into the professional trajectory of doctorate holders. Low response rates and the fact that it is impossible to reach all doctorate holders pose certain limitations. Biases in the data must therefore be made transparent and appropriately addressed to make the results as insightful as possible. It is also important to be aware that the results reflect the past. Just because the careers of doctorate holders have historically followed a certain course, does not mean that this will also be the case in the future. This is particularly important when it comes to contextualising and communicating the results.

CONTEXTUALISE AND COMMUNICATE THE RESULTS

The results of career-tracking exercises can be used for different purposes. They provide insights about the outcomes of doctoral training, inform future doctoral candidates, employers and the public, and, in certain European countries, have been used for the distribution of funds. Given these diverse purposes, there is a certain risk that they may be used for the wrong reasons and with unintended effects. Career tracking of the past does not predict the future. It says nothing about the quality of the doctorate as a research-based degree as such, and outcomes are very different according to disciplines, geographical area and the profile of an institution. Institutions must avoid that these results are politicised or used to achieve certain goals not related to getting evidence-based information on doctoral education, on the careers of doctorate holders as well as their contribution to society. Therefore, it is key that institutions properly contextualise the results in their internal and external communications.

CONCLUSION

As mentioned at the beginning of this report, the topic of career tracking has received increasing interest from European universities and other stakeholders. As a consequence, universities have started to introduce several tracking practices also at the doctoral level. This report shows the richness of what is being done by higher education institutions and that there are many ways to obtain similar information on the career paths of doctorate holders. As mentioned, it is important to determine what the expectations are and what insights can be usefully gained. These can also be used to further develop doctoral programmes. However, it is important to keep one point in mind: The career tracking of doctorate holders can only be one of many approaches to measure the quality and success of the doctoral program. Ultimately, aggregated indicators cannot „measure“ whether a single person is satisfied with the choice of doing a doctorate or not. People are different and so are decisions. In addition, the value of the doctorate is not limited to its performance in the job market. However, tracking can be a useful aid to better understand what the professional future of doctoral candidates might be and how to best support them in making the doctorate a successful endeavour.

Annex

EUA-CDE THEMATIC PEER GROUP "CAREER DEVELOPMENT AND TRACKING IN DOCTORAL EDUCATION"

The EUA Council for Doctoral Education (EUA-CDE) organised the Thematic Peer Group in 2019 with the aim to provide participating members an opportunity for mutual learning on the selected topic and to invite them to share their experience and good practices. EUA-CDE launched the call for participation in December 2018 to select this working group. Its objectives were to discuss and explore the success of and room for improvement in doctoral education structures, policies and practices in Europe; and to contribute to a common knowledge base on doctoral education in Europe by identifying key lessons learnt on the selected topic.

Representatives from 14 European universities met three times, from March 2019 to January 2020, to discuss how career tracking can support the career development of doctoral candidates. They explored the key challenges experienced by their institutions when engaging with career tracking in doctoral education, shared views on the different career-tracking methods in place at their universities and exchanged good practices with the aim to provide advice to their peers.

This group was chaired by one participating member and coordinated by the EUA-CDE Secretariat.

The meetings were hosted by three institutions, namely the University of Geneva (Switzerland), the University of Brescia (Italy) and the Warsaw School of Economics (Poland).

Composition of the Thematic Peer Group "Career Development and Tracking in Doctoral Education"

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