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General Feedback Report TLD 7 –
Bundesagentur für Arbeit
'Profiling and Segmentation'



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Table of contents

1.	INTRODUCTION	4
2.	PRESENTATIONS BY HOST PES	4
3.	WORKING GROUPS AND THEIR RESULTS	8
3.1	First working session: stocktaking	8
3.2	Second working session: adaptation	12
4.	GENERAL CONCLUSIONS FROM THE TLD	12

1. INTRODUCTION

The seventh Thematic Learning Dialogue (TLD) on 'Profiling and Segmentation' was held on 8-9 October 2019 in Nuremberg. It was hosted by the German PES, Bundesagentur für Arbeit (BA), with Participating PES coming from France, Norway, Portugal and Romania. Each delegation consisted of two experts each from the Participating PES. In addition, the peer PES from Luxembourg and Lithuania sent one expert each to act as coaches to the Participating PES. The lead expert from the ICON team was in charge of moderating the TLD. Finally, a representative from DG EMPL in the European Commission also attended the event. Dossiers on the Participating PES and the Host PES had been drawn up, checked and sent to all participants before the event. A preparatory 'virtual kick-off meeting' was held on 19 September. This helped to clarify the roles of all the participants, and the final agenda and participants' expectations regarding the TLD were discussed there as well.

2. PRESENTATIONS BY HOST PES

Following the official welcome and a short 'tour de table' introducing all the participants, representatives from the Host PES presented the BA's overall approach to profiling. Furthermore, a set of presentations provided in-depth insights into supporting specialised services, while another set of presentations addressed matters of data gathering, future developments in this context in the BA, as well as a self-assessment tool. The presentations were concluded on the second day of the TLD with a practical demonstration (role play) of the profiling process and a presentation on profiling carried out by external service providers on behalf of the BA.

At the core of the BA's process of placement and counselling lies the 4-Phase Model (4-PM), which breaks down the process into four distinct steps:

1. profiling
2. defining the goal/integration target
3. selecting the strategy
4. implementation & follow-up.

Given the topic of the TLD, the presentations during the TLD focussed primarily on the first phase of the 4-PM, though the following steps were also addressed where relevant.

One major change in the BA's approach to profiling during recent years is the shift in focus from identifying potential obstacles to placement to identifying and analysing the strengths of jobseekers. This analysis takes into account two fields of competences:

- **professional competences** such as education, training and work experience, as well as **skills** like knowledge and proficiencies, language skills, licenses and certificates;
- **interdisciplinary competences** such as methodical, 'social-communicative' and personal competences.

The individual jobseeker can choose up to five specific competences in the fields of professional or interdisciplinary competences which are of particular relevance to integration into the labour market as his or her 'special competences'. Based on this analysis of their strengths, an individual 'profile of strengths' is generated which is documented in the jobseeker's profile and it also serves as one of the guidelines for the subsequent processes of segmentation, matching and placement.

The other guideline for this process is the analysis of a jobseeker's potential which is based on two aspects, the personal (which is also broken down into three dimensions), and the environmental (with two dimensions):

- **Personal profile**
 - **training:** education, vocational training, work experience, language skills and other education;
 - **performance:** intellectual performance, health restrictions relevant to placement, work and social behaviour and other talents;
 - **motivation:** personal initiative, attitude towards work, willingness to learn or attend further training and other motivations;
- **Profile of the environment**
 - **framework conditions:** personal framework conditions, living situation, family situation and care, financial situation, geographical mobility and other factors;
 - **labour market conditions:** regional/nationwide demand for the targeted profession and/or the regional/nationwide demand for related professions.

By combining an analysis of a jobseeker's strengths and an analysis of their potential, the counsellor determines whether a jobseeker is 'close to integration' or 'a long way from integration'. If the counsellor decides that a jobseeker can be integrated within six months, the jobseeker is then considered 'close to integration', otherwise, the jobseeker is classified as being 'a long way from integration'. These two categories also represent the two basic segments of jobseekers according to the BA's strategy. It is important to note that it is the counsellor who determines the integration prediction linked to the segmentation. There is no automation involved and this segmentation can be changed at any time during the placement process by the counsellor.

Data gathering and data requirements

The information required for the profiling stems from two sources: data provided by the jobseekers for their CV and their job preferences on the one hand and administrative data on employment and vacancies on the other hand. The process of data gathering from jobseekers starts with their initial online registration with the BA. Jobseekers can complete their CV online by accessing the BA online portal which has intuitive user guidance. Here, they can also define their job preferences. The data is then transferred to the BA system which also allows for the provision of job offers prior to the first personal counselling. Furthermore, jobseekers can make use of video chats with online guides to conduct a market assessment and a job search. During the initial personal counselling session, the information provided by the jobseeker thus far is checked for plausibility and amended if necessary, and this completes the profiling. This individual data is then used to provide input for matching mechanisms linked to the above-mentioned administrative data on employment and vacancies in order to identify suitable job offers. In this way a link is created between the individual's profile and the demand side of the labour market, and this automatically supports their placement process

Supporting services for profiling: Medical Service (ÄD) and Vocational Psychological Service (BPS)

The general approach to profiling and segmentation outlined above is augmented by two additional supporting services that counsellors can make use of if the need arises during the process of profiling, or later on while trying to place a jobseeker: the Medical Service (ÄD) and the Vocational Psychological Service (BPS).

A counsellor can decide to refer a jobseeker to the ÄD to determine possible health restrictions influencing the jobseeker's employment possibilities. This unit is comprised of doctors employed by the BA who specialise in occupational medicine. A referral requires the provision of concrete questions by the counsellor to be answered by the ÄD. There are five sources of information for the work of the ÄD: (1) a questionnaire from PES staff, (2) a health questionnaire based on information written by the jobseeker, (3) jobseekers' medical reports from GPs or other specialised doctors, (4) other medical reports (laboratory, radiology etc.) and (5) the results of a medical examination in the BA's medical service centre. The resources actually required for answering a request from counsellors depend on the type of medical assessments provided by the ÄD, of which there are three basic types:

- **a short survey:** determining the job-related or workplace-related needs of the jobseeker and the advice on the potential involvement of other professionals;
- **a written expert opinion without medical examination of the jobseeker:** a description of situation according to the ICF (International Classification of Functioning) and details on individual functional capacity;
- **a written expert opinion with a medical examination of the jobseeker:** this includes an extended description according to the ICF with a positive and a negative functional ability evaluation.

These documents can then be used in the further process of profiling and placement and for the identification of specific needs of individual jobseekers.

The BPS is the other internal unit of the BA in charge of offering additional services in the process of profiling. This unit consists of specially trained psychologists and their assistants. Their work is based on a broad range of methods: psychological interviews, tests, questionnaires, analysis of behavioural samples and analysis of biographical data, reports and qualifications. Usually, the support of the BPS is initiated by a request from a jobseeker, like specific aims of career development or vocational training, and guided by their counsellors. The BPS assesses the individual's occupational aptitude for vocational training, qualifications and placements, or it identifies necessary additional support. The information gathered during the psychological assessment can then be used by counsellors e.g. for deciding whether specific vocational training or another training measure is suitable for a specific jobseeker.

Additional support in the process of orientation: the Self-assessment tool (SET) and the Careers Information Centres (BIZ)

With the specific focus on young people about to leave school or otherwise in need of orientation regarding their labour market prospects, the BA offers two more services: a self-assessment tool (SET) for free online use and the Careers Information Centre (BIZ) located in each local office. Both services are not an integral part of the actual process of profiling. Instead, they serve the wider mission of the BA which is offering advice and guidance throughout the entire working life. However, since both address the determination of skills and/or the choice of an appropriate vocation or study, they are still linked to the idea of profiling.

The SET is an online-based service free of charge meant for young people who are about to leave school. Through modular online tests they can assess their competences in four distinct fields: skills, social competences, personal interests and professional preferences. All of these four modules are based on sound psychological test methodologies and their results are linked to concrete recommendations for suitable vocational training or fields of studies. Further support is also offered in the shape of professional individual counselling if a user requires additional information or support in the interpretation of his or her results.

All in all, this is a relatively new and well-received instrument that strengthens digital self-services generally aimed at younger people and not specifically at jobseekers.

The same orientation towards the general public holds true for the BIZ. Also free of charge, the BA offers rooms, usually located in their local offices, that

- serve as platforms for self-service via media use and online access for the general public seeking information on career and job opportunities;
- can be used for seminars on occupational orientation by specialised BA counsellors, specifically designed for school classes;
- provide resources and information for BA employees seeking to advance their knowledge;
- are meant as a space for collaboration with the BA's local network partners.

The outlines of the rooms of all BIZ are based on the concept of a 'standardised room', making the structure of each BIZ office across the country basically identical.

Future Developments: Realignment of Matching

One current core effort of the BA in the sphere of profiling and segmentation is directed at integrating new functionalities into their matching approach. This includes, among other things, the option to mark matching results as 'not suitable', the implementation of a search assistant for jobseeker profiles and vacancy searches, better support for lateral entry, revision of the existing matching criteria and the inclusion of 'soft skills'. Two of the tools currently being developed highlighted during the TLD were 'job recommendations' and 'opportunity tool'.

Job recommendations consist of automatically generated information on job offers sent to jobseekers via email. Their use requires the provision of selected job offers from the employer service on the one hand and the activation of this function by the counsellor, if the jobseeker agrees, on the other hand. Based on the individual jobseeker profile, the 'search assistant' identifies vacancies that match his or her profile with at least eighty per cent accuracy. These offers are then sent to jobseekers in pre-defined intervals. This additional service allows for more timely recruitment, thereby optimising the matching process through semi-automated support.

The opportunity tool is intended to only be used by counsellors and it will be integrated into the internal placement system. Based on predictive analyses and machine learning, this tool provides counsellors with case-related information, thus supporting the placement process with evidence-based suggestions for concrete actions, leading to a better overall quality of the placement process. Technically speaking, the opportunity tool can classify and rank information, forecast quantities and recognize patterns. Typical applications for its use could be the provision of more precise information on most frequently requested characteristics of target occupations (e.g. knowledge, skills and formal qualifications) as well as determining the quality of matches between a vacancy and a targeted pool of jobseekers.

Both tools are still under development, as is the whole realignment of the matching process at the BA. However, these tools hint at the possible future use of data and advanced technologies in the process of profiling and segmentation specifically, as well as placement services in general.

The discussions among the participants focussed on several aspects of the presentations. On the one hand, data requirements, especially with regard to the inclusion of skills, were discussed intensely, as well as suitable strategies for data gathering. Here, the use of self-reported data by jobseekers has to be weighed against the automatic use of existing administrative data. Other matters that came up repeatedly were the legal mandate and legal

restrictions of PES. This referred, for example, to the legal mandate of the BA to counsel people who are about to lose their job as a preventive measure, but also specific restrictions regarding data collection. Finally, the self-assessment tool proved to be of specific interest to most participants as it is online-based and it links soundly generated test results to labour market requirements and prospects.

3. WORKING GROUPS AND THEIR RESULTS

There were two group work sessions in total, the first one (on day one of the TLD) lasted around two hours, the second one (on day two) lasted around one and a half hours. At the end of each working session, the results were presented and discussed in a plenary session. For the working sessions, the following pairings were made between Participating PES on the one side and Host PES or supporting peer PES on the other side. A representative of the Luxembourg PES was the supporting peer for France while the representatives from the Portuguese PES were supported by an expert from the Lithuanian PES. Experts from the Host PES acted as coaches for the delegations from Norway and Romania.

3.1 First working session: stocktaking

The first working session aimed at identifying those elements of the German PES that offer interesting ideas for the Participating PES in their specific situations. Since the context, mandate and current challenges faced by the Participating PES are different, different aspects of the German PES were highlighted.

Pôle emploi (Pe), France

The French PES, Pôle emploi (Pe), was found by the external assessors during the 2nd PES Benchlearning cycle to apply a relatively advanced holistic approach to profiling. This was due to including (informal) competences in the profiling process in addition to the more conventional criteria of formal qualifications and work experience. Furthermore, the efforts of the last two years at Pôle emploi were also directed at improvements in the sphere of profiling and segmentation, as could be witnessed during the TLD hosted by the Pe on this topic just two weeks prior to the TLD in Germany. Since 2016, a step-by-step diagnostic tool has been introduced as well as a self-helping tool for jobseekers in 2017. These measures not only raised the jobseekers' satisfaction with the registration process but also freed up time of counsellors to be dedicated to in-depth counselling instead of administrative work.

The next step for the Pe in this change process, as recommended by the external assessors, is creating a link between the existing profiling and an advanced approach to segmentation. The context, in which this development is currently taking place, is an experiment to be carried out in 2020 by the Pe's Jobseekers' Services unit. By applying a more thorough analysis of the situation of individual jobseekers, the PE hopes to focus their support efforts on those 'key moments' in the placement process which are most likely to yield positive results. Ideas developed during the TLD will be integrated into this experiment. Ultimately, this effort is supposed to create a systematic link between different segments of jobseekers (support modalities) and several dimensions of the placement process such as the counsellors' caseload, the actions that are proposed, the intervals before offering services, the preferred service channels and the tools that are available.

Thus, as a first step, the representatives of the Pe identified three additional types of data to be included into the profiling system during the TLD:

- medical information on the jobseeker's health situation;
- information on the jobseeker's intellectual performance;
- information on the jobseeker's motivation.

For all three types of information it was considered crucial to differentiate between declarative information reported by jobseekers and the more objective information which is gathered through tests, questionnaires or assessments. It is hoped that the inclusion of additional information will provide a more comprehensive picture of jobseekers and their needs, thus allowing for more structured and well-timed actions which can support informed decisions by counsellors. This in turn can be used to improve the quality of segmentation as well, avoiding a possible bias towards certain segments due to better and more comprehensive data.

While the planned experiment was considered a good opportunity for advancing these efforts, three main challenges were also identified during the TLD:

1. The change of 'culture' in counselling implied by this new approach might lead to internal resistance to this change among staff.
2. In order to ensure a uniform application of a revised profiling and segmentation system, the implementation of nationwide training of counsellors poses another practical challenge.
3. Since the change proposed here would inevitably affect the Pe's IT system, this would entail complex and time-consuming processes on the technical side.

Given the focus of their interest, the representatives of the Pe were also interested in additional details regarding the questionnaires and tests applied by the BA to gather information on the previously mentioned dimensions of profiling.

Labour and Welfare Administration (NAV), Norway

The NAV, the Norwegian PES, introduced an updated process of online registration encompassing (relatively) comprehensive data on jobseekers, supporting a more holistic approach, to profiling in October 2018. Based on the results of this revised profiling, the individual jobseeker's likely need of support is then determined. The resulting segmentation relates to both the channel chosen for interaction with jobseekers as well as actions to be taken. There are the following three segments:

1. low-level of follow-up: focus on digital self-services, web-based information and autonomous job search;
2. moderate level of follow-up: further clarification and guidance, short-term measures like work practice and labour market training;
3. extensive level of follow-up: often related to health issues. These services include schemes in sheltered enterprises as well as physical and psychological services provided by specialised units at the NAV.

During the external assessment of the 2nd PES Benchlearning cycle, two core recommendations were given to the NAV in the sphere of profiling and segmentation:

- Reviews and updates of the jobseeker profiles should be carried out in pre-defined intervals.
- A mechanism to automatically and systematically check the segmentation process should be introduced to ensure its accuracy and quality.

Given this situation, the next steps at the NAV concern the refinement and further development of their profiling and segmentation in three areas:

1. Evaluation and refinement of the existing profiling tool: picking up on the suggestions of the external assessors, a systematic approach to evaluating and adjusting the existing profiling system needs to be developed.
2. Understanding and improving the application of the profiling by counsellors. Both the 'overriding' of automatically generated profiling decisions by counsellors and the use of profiling results in the interaction with jobseekers should be investigated in detail.
3. Addressing legal matters: at the current time, legal matters hamper the implementation of further steps in the profiling system, such as the inclusion of specific types of data. Lawyers will look at these matters.

Finally, another possible future action is the carrying out of experiments (e.g. RCT - Randomised Control Trials) to improve the approach to profiling. In this situation, legal and ethical matters will have to be taken into account. Thus, the challenges the NAV is facing in refining their approach to profiling and segmentation are of both a practical and a technical nature, as well as a legal nature. The GDPR issues experienced by other PES handling these issues were considered particularly important by the Norwegian representatives.

Employment and Vocational Training Institute (IEFP), Portugal

At the IEFP, the Portuguese PES, a new approach to profiling, that was also immediately linked to the segmentation of jobseekers, was introduced in 2013, and the segmentation was also refined by additional information. This system takes into account information on the following characteristics of jobseekers: age, work experience, their history of unemployment, education, their geographical location, their proximity to a local labour market, disabilities and their marital status. Based on this data, and augmented by further information on their interaction during counselling, their mental resilience and possible membership of disadvantaged groups, the counsellor determines an individual's risk of long-term unemployment as being (1) low, (2) moderate or (3) high. This classification at the same time serves to segment jobseekers and define possible measures to be taken.

The refinement of this approach has not only been the expressed aim of the IEFP itself, but it was also recommended by the external assessors of the 2nd PES Benchlearning cycle. They highlighted the following recommendations:

- the integration of skills in the profiling;
- the definition of fixed time intervals for repeating the profiling;
- the use of profiling results for assigning jobseekers to specific counsellors;
- the introduction of specialised staff according to identified risk groups.

The process of change in this sphere has already been initiated by the IEFP and the corresponding decision has also been approved. A cooperation has been agreed upon with the University of Lisbon to jointly develop the new profiling system, and piloting the new system has been initiated in some local offices. Right now, there are two core interests at the IEFP.

1. The refinement of the statistical model used for profiling and segmentation: the inclusion of administrative data and competences of jobseekers is meant to refine the current profiling system, while also linking its results to the development of Individual Action Plans.
2. The development of an IT application generating recommendations for counsellors: based on the available data, counsellors are to receive three or more automatically generated evidence-based suggestions for actions to be taken with the individual jobseeker.

Apart from these technical challenges, practical matters concerning their implementation are also currently being considered by the IEFPP. On the one hand, this refers to the matter of understanding the practical application of this new tool by counsellors during their meetings with jobseekers: what data should be made available to them and in how far does this facilitate the process of decision-making? On the other hand, this is also linked to potential resistance from counsellors to this change. In order to solve this, adequate communication as well as training will be required. The overall aim of the IEFPP is to have the new profiling system in place by the end of 2020, together with the system of recommendations based on this new approach.

National Agency for Employment (NAE), Romania

Prior to the 2nd PES Benchlearning cycle, a new profiling tool was developed and implemented at the Romanian PES (the NAE). This tool distinguishes between four levels of employability: 'high', 'average', 'low' and 'very low'. It is based on five criteria: (1) geographical location (urban vs. rural), (2) education, qualification and work experience, (3) socio-demography (gender and age), (4) vulnerability, and (5) professional aspirations and skills. However, a systematic approach to segmentation was still lacking at the time of the external assessment, except for some specific active measures only offered to jobseekers in the 'average' and 'low' categories. Therefore, one core recommendation of the external assessors referred to the introduction of a systematic approach to segmentation, and the NAE defined this as one of the core efforts of their change agenda. Furthermore, it was recommended that the NAE should evaluate the statistical accuracy of their profiling tool.

Against this backdrop, the NAE defined the following core interests and aims for the TLD and its related change project:

- determining and – if necessary – improving the quality of the existing statistical profiling;
- replacing current information on 'professional aspiration and skills' with more relevant data, e.g. on health, family situation, motivation and skills;
- the development of a segmentation approach.

These changes are meant to enhance both the efficiency of the allocation of resources by allowing counsellors to focus their support on those jobseekers most in need, as well as improving the placement process in general by providing better data and exploiting its potential. Since this project is in line with the general change agenda at the IEFPP, the challenges concerning its implementation mainly refer to technical matters and the resources required.

- The integration of new data: the information on health, family situation etc., mentioned above, has to be integrated into the existing tool which is to be done by the IT personnel who initially developed this tool.
- Segmentation: the results of the profiling have to be linked to distinct types of jobseekers who in turn have to be used for determining concrete actions to be taken.
- Training and the staff required to carry out the project: on the one hand, existing staff will have to be trained in the use of the new tool. On the other hand, there is a shortage of personnel. Both these matters will have to be addressed during the course of this change project.

Regarding the schedule of this change process, the representatives of the NAE at the TLD envisaged Board approval for the new tool by the end of 2019. The technical development of the tool should be concluded by spring of 2020, while the nationwide roll-out is planned for the middle of 2020.

3.2 Second working session: adaptation

The objective of the second working session was to build on the first session, this time with concrete ideas for activities supporting the PES change process. Assisted by supporting peers and experts from the Host PES, all Participating PES managed to elaborate an outline of change with milestones, in line with the identified needs. They also pointed out potential activities and sub-tasks, potential deadlines, responsibilities and the relevant stakeholders who need to be included in further steps. The results of this second working session are documented separately in the Individual Feedback Reports for each Participating PES.

4. GENERAL CONCLUSIONS FROM THE TLD

Similar to the previous TLD in France on the same topic, it became obvious during the event in Nuremberg that the Participating PES are at very different stages in the development of their profiling systems, so they are subsequently facing very different challenges in the related change processes. The discussion among the participants, however, at least partially focussed on some other aspects compared to the TLD in France.

- a) Data requirements: the questions on the inclusion of data are twofold. On the one hand, it has to be decided which data is to be gathered, and the relevant dimensions. On the other hand, suitable ways for gathering this data (self-reporting, using administrative data, tests etc.) have to be decided upon.
- b) Technical developments: the definition of the actual algorithms for the automatic profiling as well as their continuous further development through the application of AI and machine learning pose crucial technical challenges.
- c) Linking segmentation to concrete suggestions: the inclusion of automatically generated, evidence-based suggestions for actions to be taken is one effort that is of specific interest to most PES.
- d) Legal issues: especially when gathering data and applying automated decisions, special care has to be devoted to legal issues. This refers to laws and regulations on the national level and GDPR restrictions at the EU level.

The overall satisfaction with the event was relatively high for most of the participants. Two thirds of the participants who completed the post-event survey found the introduction and in-depth presentations by the Host PES to be either 'good' or 'very good', while one third rated them 'average'. In a similar way, the 'working-in-teams' sessions were considered 'very good' by two thirds of the respondents, while 17% found them to be 'poor' and a further 17% found them 'average'. Finally, the respondents found the balance between presentations and group work 'good'. One half rated the balance 'exactly right', the other half rated it 'about right'. Still, the lower satisfaction of two respondents points to the fact that their needs were not properly met by the event. This was also explicitly expressed in one additional comment. As a consequence, even more attention should be paid during the preparation process to the needs and expectations of all Participating PES to ensure that the inputs and discussions at the TLD meet their needs and support their efforts in bringing about change in their organisation.