An AHP – Based Assessment of Scenarios for Promoting Employment of People with Disabilities in Latvia

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Abstract. The employment of people with disabilities has multidimensional aspects - economic, social, legal, human rights, discrimination, psychological, ethical and responsibility aspects - with different actors involved representing various kinds of interests. The European Union Disability Action Plan and Strategy specifies the objective of promoting the employment of people with disabilities in the open labour market. The employment of such individuals is not only an economic issue, but also an issue of social inclusion, poverty reduction, equal opportunity and socially responsible employment. Effective and fair use of human resources for national economic development requires a variety of support mechanisms, including regulatory frameworks, the active involvement of local municipalities, and measures taken by state institutions. Because of the different issues and the various actors with different interests involved, an integrated way has to be considered to analyse the employment factors and employment opportunities for people with disabilities. The *purpose* of this study is to explore and substantiate the possible scenarios associated with promotion employment opportunities for people with disabilities in Latvia. The *research methodology* employed for this study is based on the Analytic Hierarchy Process, and expert interviews are used to analyse the interests of all involved parties, in order to determine the best possible scenarios as to how to stimulate employment for people with disabilities. As a result, three scenarios to promote the employment of people with disabilities were developed. Although the *results* showed slight differences between the three scenarios, experts believe that the optimal scenario for promoting the employment of people with disabilities is the one in which the EU participates.

Key words: people with disabilities, employment promotion, the Analytic Hierarchy Process (AHP).

Introduction

Equality of opportunity is the objective of the European Union's long-term strategy on disability. This aims to enable persons with disabilities to enjoy their right to dignity, equal treatment, independent living, and participation in society (ILO, 2015). A large proportion of the population suffers from a disability, and consequently many people continue to be excluded from the labour market in Europe (Scharle & Csillag, 2016). The European Union Disability Action Plan and Strategy specifies the objective of promoting the employment of people with disabilities in the open labour market by

combining anti-discrimination and positive action measures (ILO, 2015).

Latvia's National Development Plan 2027 (NAP 2027) is composed of four strategic goals – equal opportunities, productivity and income, social trust and regional development (CSCC, 2020). The employment of people with disabilities continues to be a topical subject with regard to the Latvian labour market. Due to the decline in the working-age population in Latvia, and taking into account the forecasted labour shortage in the coming years, people with disabilities should be recognized as a valuable resource in the job market. In Latvia, the share of people with disabilities amongst

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Source: Data of Ministry of Welfare of Latvia.

Figure1. Proportion of Employed Persons with Disability in Latvia, 2017-2019.

the permanent population is gradually increasing, reaching 8.8% at the beginning of 2016, 9.3% at the beginning of 2017 and 9.7% at the beginning of 2018 (CSCC, 2020). In order to better exploit the potential of the labour market, Latvia's National Development Plan for 2021-2027 provides targeted measures to support those facing increased risks of long-term unemployment, including people with disabilities (ibid). In 2016, 5.8% of those without work and those who would like to work but do not work, participated in active labour market policy measures. This is one of the lowest percentages in the EU. However, it needs to be significantly raised by at least twice, in particular

to boost productivity growth and reduce the risks of structural unemployment (ibid).

As of December 2019, the National Commission for Medical Examination of Health and Work Ability listed 195,751 persons with disabilities in Latvia, 187,868 of these being adults. Of these, 50,987 are currently employed, making up 27.1% of working age persons. In 2018, the employment rate for people with disabilities was 26.6% (employed persons with disabilities out of the total number of adult persons registered with disabilities), whereas the employment rate for people without disabilities (aged 15-64) was 71.8 % (Ministry of Welfare).

Source: State Employment Agency.

Figure 2. Unemployed people with disabilities 2008-2019.

Source: State Employment Agency.

Figure 3. Changes in the number of job vacancies 2015-2020.

In December 2019, according to the State Employment Agency, the registered unemployment level in Latvia was 6.2%. At the regional level, unemployment rates vary across regions, with the highest rate in Latgale region - 13.8 %, followed by Kurzeme region - 7.2%, Zemgale region - 6.3%, Vidzeme region - 5.9%, Riga region - 4.3%, with the lowest in the capital city, Riga, - 4% (State Employment Agency, 2020).

The percentage of unemployed persons with disability from the total number of unemployed was 13.6% (Figure 2). At the end of December 2019, more than half (64.1%) of the registered unemployed with a disability were aged over 50. 42.6% of the registered unemployed with disabilities were long-term unemployed. The young unemployed with disabilities, aged 15-24, made up 1.8% of the total (ibid.). As employment levels rise in the country, the employment rate of disabled people also increases. In a situation of lower unemployment rates, people with disabilities are more likely to be employed but still they are the last group of workers to enter the labour market (Figure 2). The existing labour shortages in specific sectors could be addressed by more intensive integration of disabled people into the labour market (Figure 3).

Disability management has at its heart the belief that work is central to all peoples' lives, that individuals, society, employers and government all value work, and want to have all of their citizens gainfully employed (Harder & Geisen, 2011). People with disabilities are one of the groups most at risk in terms of social inequality and poverty. Paid work is still the main source of income. The latest available data show that amongst all EU Member States, Latvia had the sixth highest share of people at risk of poverty or social exclusion (CSCC, 2020). An inclusive labour market with high employment rates and low unemployment rates is the best protection against poverty experiences. Although various policy and

planning documents have been published, and various initiatives have been taken in Latvia in recent years, studies show that the employment rate of people with disabilities is changing only slightly (Oborenko & Rivza, 2018).

The development of society is driven not only by rational monetary factors but also by human values, so Saaty and Shang make a strong statement: "Taking the economy of large unemployment as an opportunity to develop a more compassionate society would ensure that the world functions humanely beyond money and behaves consistently with cherished principles." (Saaty & Shang, 2011).

The *research objective* of this study is to determine ways to promote the employment of people with disabilities. The *aim* of this study is to develop employment promotion scenarios for people with disabilities and to evaluate the optimal scenario. The following *research tasks* were created: 1) to study the employment factors associated with persons with disabilities by analysing planning and strategic documents; 2) to explore the interests of the various involved actors by interviewing experts from the parties involved; and 3) based on the analysis of these interests, evaluate scenarios for the promotion of employment of people with disabilities. The *research methodology* is based on Analytical Hierarchy Process theory. This is a hierarchical multi-criteria decision making tool for prioritizing problems. The process is done through pairwise comparisons and relies on the judgements of experts to derive priority scales (Saaty, 2008; Saaty, Peniwaty & Shang, 2007; Saaty & Shang, 2011).

Methods

As the employment issue of people with disabilities is multidimensional, it requires the consideration of different aspects. Therefore, the Analytical Hierarchy Process (AHP), developed by Saaty, was found to be the most appropriate method for designing

employment promotion scenarios for people with disabilities. The AHP and the Analytic Network Process (ANP) are used to measure intangibles using human judgment. The AHP is a structured technique for organizing and analysing *complex decisions*, based on *mathematics* and *psychology*.

In 2011, Saaty and Shang introduced an innovative AHP-based structure with the aim of capturing the relationship between various levels of activities contributed by people to society (Saaty & Shang, 2011). The AHP has been applied to diverse situations by addressing the need to prioritize numerous substantial and heterogeneous alternatives. The coherent approach to structuring complex decisions using the AHP enables the user to transcend the complexity of dealing in a scientific way with the problem of widespread orders of magnitude of criteria and alternatives in a complex decision (Saaty & Shang, 2011). Because multiple factors are often non-homogeneous, it is essential to organize them into different homogeneous clusters, and then deal with the linkage among these clusters as part of the process of relating them, and then deriving priorities for their measurement.

AHP is the most powerful synthesis method available for combining judgment and data, in order to effectively rank options and predictive outcomes. According to Saaty (2007), decisions depend on future conditions and circumstances that change over time. The AHP makes use of the principles of decomposition, comparative judgments, and synthesis (Saaty & Vargas, 2001). Decomposition involves constructing a hierarchy which puts the goal of the problem at the top, and places the criteria, sub-criteria, and alternatives in descending hierarchical order.

In order to make comparative judgments, a comparison matrix is arranged at each level to compare pairs of (sub) criteria or pairs of alternatives. The complete pairwise comparison-matrices are synthesized to estimate the relative priorities with regard to all alternatives. Ultimately, the AHP provides rank order and relative values on an absolute scale for each alternative (Saaty, 1990; 2016). Decision makers may deal with the problem using knowledge, experience and intuition. Consequently, evaluating intangible contributions to society might be a very subjective process, which may entail a level of bias, inexactness, and inconsistency (Saaty & Shang, 2011). A systematic way of undertaking evaluation, such as by using the AHP, offers a safe and valuable tool in terms of dealing with qualitative and intangible issues. This is because it makes the problem more transparent and comprehensive, and provides the means to check on each judgment, and determining where bias may be involved (Saaty & Shang, 2011).

Based on the analysis of scientific literature, European Union and Latvian National Strategy documents, and various studies on the employment of people with disabilities, as well as expert opinions on possible solutions for the promotion of the employment of people with disabilities, a model of hierarchical analysis was developed. To evaluate the different criteria developed for specific interest groups, and to assess the scenarios developed for the promotion of the employment of people with disabilities, interviews were carried out as the key study method. Six recognized specialists, whose experience and position were very significant to the topic under consideration were selected for the survey: (1) The Chairman of the board of SUSTENTO, the Latvian umbrella body for disability organisations, the representative of Latvia to the European Economic and Social Committee and Secretary-General of the European Disability Forum; (2) The Chairman of the Latvian Samaritan Association, a member of the council of the Latvian Social Enterprise Association; (3) A social security and health care expert, social rights expert, member of the Latvian Employers' Confederation; (4) The Head of the Employment, Social Work and Practice Research Unit in the Welfare Department of Riga City Council; (5) The Project Manager of the Apeirons – the Association of Disabled People and their Friends, expert in the European Disability Academic Network; (6) The Director of the Social Integration State Agency, Former Minister of Welfare. The interviews took place from August till October 2019. The data mathematics processing was performed with the Ms Excel computer program. The criteria comparison results were illustrated graphically as a minimal, maximal and average coordinate of each factor's priority vector.

Results and Discussion

In order to find integrated solutions for the promotion of the employment of people with disabilities, a hierarchical analysis model was developed. As shown in Figure 4, the highest goal (first level) is the promotion of employment of people with disabilities. On the second level, five actors were identified, with 5 criteria specified for each of them shown on the third level. On the fourth (the lowest) level, the alternative scenarios with regard to promoting the employment of people with disabilities were set up. Three alternative scenarios have been developed to promote the employment of people with disabilities, each of which involve five stakeholders: individuals in the form of people with disabilities, entrepreneurs, municipalities, the state and the European Union.

Source: authors' construction.

Figure 4. Structure of the Analytic Hierarchy Process used in the research.

Five criteria were defined for each of the interest groups. Experts made criteria comparisons in each of interest groups and in the evaluated scenarios. Table 1 shows the results of pairwise-comparison in a aggregated form with regard to the interests of all the involved parties (see 2nd level, Figure 4). Summarizing the experts' evaluations in criteria groups of interests the highest average rating was for individuals as the group most interested in employment, where the average priority vector value was 0.32, the minimal value was 0.16 and the maximal value was 0.56. The EU interests are evaluated by the experts as being the second highest, where the priority vector value was

0.25. The EU strategic settings have an impact on national decisions. Moreover, the EU also finances employment measures that play a role in promoting the employment of people with disabilities. With regard to this set of criteria, the experts had different opinions, with the highest amplitude between the lowest and highest values being 0.05 and 0.58 (Table 1 and Figure 5).

Figure 5 graphically illustrates the results of pairwise comparison of the interests of the various parties involved.

The experts assessed the interests (see third level, Figure 4) of each stakeholder group, and found priority

Table 1

The matrix of the priority vectors for criteria groups

Criteria groups	Experts						Priority vector average value
	A	B	C	D	E	F	
Individual Interests	0.21	0.56	0.37	0.36	0.16	0.27	0.322
Entrepreneurs' Interests	0.17	0.23	0.03	0.04	0.07	0.08	0.103
Municipal Interests	0.06	0.09	0.21	0.18	0.10	0.05	0.114
National Interests	0.40	0.07	0.27	0.18	0.10	0.24	0.209
EU Interests	0.15	0.05	0.11	0.25	0.58	0.37	0.253

Source: survey results.

Source: survey results.

Figure 5. Priority vectors for interests' groups.

vectors that contribute to a better understanding of the interests of the individuals involved. So, in terms of people with disabilities, the highest average value was related to environmental accessibility, workplace adaptation and flexible working conditions – 0.24; for entrepreneurs – qualified workforce – 0.24; for municipalities – reduction of social problems, social security and social protection – 0.35; for national interests – increasing GDP by promoting the development of various sectors of the economy – 0.33; and for EU interests – social justice, equal opportunities and social inclusion – 0.31.

In the fourth level, three scenarios were set up as a complex solution for the defined goal to promote the employment of people with disabilities.

Scenario 1: The scenario is one of cooperation between people with disabilities and municipal and state institutions. It is a worker support scenario where an active part is taken by the individual. Responsible municipal and state institutions introduce measures in accordance with regulatory enactments, their statutory functions, and published strategic documents. In this

scenario, functional and co-ordinated co-operation between the public authorities involved in the support of employment is ensured. Non-governmental organizations representing people with disabilities form an active support mechanism, and adopt a position in shaping public policy. They also represent, defend, and promote the interests of individuals in relation to public institutions, and in ensuring social dialogue. Vocational rehabilitation and training is developed, taking into account the demands of the labour market, thereby promoting the employability and competitiveness of people with disabilities in the labour market.

Scenario 2: The scenario is one of collaboration between entrepreneurs and state and municipal institutions. This is a scenario supporting and stimulating entrepreneurs. In this scenario, state and municipal institutions actively work with employers to address labour market challenges to meet labour market demands. State and municipalities provide support to employers in the realization of their interests. The State Employment Agency implements a set of

Source: survey results.

Figure 6. Evaluation of scenarios for promoting the employment of people with disabilities.

measures for employers when people with disabilities are employed. Responsible business practices on the part of entrepreneurs, their commitment to social responsibility, and effective human resource planning are essential.

Scenario 3: The European Union participation scenario encourages national action in planning and implementing employment strategies and policies for people with disabilities. With the support of EU funds, it is possible to implement active measures for both employees and employers. EU participation has a positive impact on national decisions.

According to the research results, the optimal scenario for promoting the employment for people with disabilities is Scenario 3 involving EU participation. The average value of priority vector is 0.345, with a minimum priority vector value of 0.173 and a maximum priority vector value of 0.529. In terms of the second most optimal scenario, with an average value 0.337, the experts assessed it to be Scenario 1, where individuals cooperate with municipal and state institutions. Finally, as the third optimal scenario, with an average value of 0.318 was found in the case of Scenario 2, where entrepreneurs collaborate with state and municipal institutions.

For this study the use of AHP as a tool helped to crystallize and allow a better understanding of what is a very complicated problem from an integrated perspective, in order to find and assess optimal solutions for society interests. Because the solution to a problem is multidimensional, specific decisions require in-depth study, and can be solved over different time periods. Further research is needed to investigate the advantages and disadvantages of these scenarios, and which of the developed scenarios can serve in the long run.

Conclusions

- 1) The study addresses the problem of promoting the employment of people with disabilities. The research methodology is based on the Analytical Hierarchy Process, which resulted in the development of three scenarios for the promotion of employment of people with disabilities: the first is an employee-supportive scenario - a cooperation scenario between individuals and state institutions and municipalities; the second - an employer-supportive scenario - is a collaboration scenario between entrepreneurs, municipalities and state institutions; and the third - is a scenario incorporating European Union participation. Although the results showed slight differences between the three developed scenarios, the European Union participation scenario was

considered the optimal one for the promotion of employment of disabled people.

- 2) The efficient and fair use of human resources in terms of national economic development, requires various support mechanisms, including a regulatory framework, the active involvement of local municipalities, coordinated measures on the part of state institutions, and the support of the European Union.
- 3) The employment characteristics of people with disabilities have been studied in Latvia from different angles, but effective solutions rely solely on an integrated approach such as was concluded with regard to this study.

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