

EVALUATION OF LABOR SKILLS IN LATVIA

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Abstract. Skills are a decisive factor for the country's economic development and social-well-being. The OECD emphasizes that strips can help countries integrate into global markets and specialize in technological advanced industries, and countries need to invest in fields not only to help people enter the labour market and protect from the risk of job losses and low quality of work, but also to increase international competitiveness and economic progress in an interlinked world. The aim of the research is to evaluate the most demanded labour skills in Latvia within the framework of certain groups of professions, as well as trends in the demand changes according to the skills of employees in order to better identify the specialists and their activities required for the national economy in accordance with the needs of the national economy. A matrix of skill set was developed within the framework of the study, which summarizes the skills characteristic of each occupation group according to their importance, as well as the list of the most bonded strips in the Latvian market (Top 10). By analyzing the scraps groups corresponding to the occupational groups, it concluded that in all major occupational groups among the most important skills mentioned to comply with the requirements of the regulatory enactments and other regulatory documents, to plan and organize the work to be done, to work in the team/group, to communicate and cooperate, and to self-educate, to new knowledge and skills.

Key words: *labour skills, skill demand, skill set matrix, occupational groups*

JEL code: J01, J08, J24

Introduction

The development of the global economy and the dynamic changes in the labour market raises a number of challenges related to the balancing of labour supply and demand, and the situation is particularly topical due to increased labour demand and labour supply differences in both quantitative and qualitative sizes. This leads to the need to complexly address issues related to the quantitative forecasting of labour by individual occupational groups, along with the establishment of appropriate changes in the demand for skills. These problems are broadly discussed by researchers and scholars around the world. The reasons and importance of labour market demand changes are connected with technology changes, innovations, societies aging and green economies.

According to data from CEDEFOP (CEDEFOP, 2015), the workforce is becoming more and more educated, but people still choose to work in jobs whose qualifications and skills are too high or low, so that skills are not properly used. In order to prevent this and ensure the efficient use and management of human resources, information is needed on labour market developments and the corresponding demand for labour by a sector, profession and its corresponding skills.

The research question is to identify the most representative skill sets in Latvia within individual occupational groups.

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identify the specialists and their activities required for the national economy in accordance with the needs of the national economy. The tasks of the research:

- developing a methodology for establishing a list of skills relevant to professions and their groups,
- conducted 223 expert interviews, discussions of 40 expert focus groups and discussions of 3 mini-groups, identifying the necessary skill sets for professions and their importance,
- input of the results in the own-set skill database, analysis of skills and unifying skill sets.

The principles of the European Skills/Competencies, Classification of Qualifications and Careers (ESCO, 2018) and the European Centre for the Development of Vocational Training (CEDEFOP, 2010) skills were used when defining the specific skill set for each profession group as main research resources. The analysis used combined methods of qualitative and quantitative data collection and analysis, including qualitative analysis of documents and secondary data, data systemisation, semantic analysis and synthesis of data, expert interviews.

The novelty of the research has obtained a skill set matrix with 1970 skill sets for 383 individual profession groups.

The research problematic questions. In the course of the studies, a number of limitations were identified in relation to the characteristics of data collection (for example, only data on registered employment are available in the SRS (State Revenue Service), the codes of professions identified according to the classification of professions do not correspond to actual employment of workers, etc.), as well as differences in the listing and wording of skills needed for professions in the various sources of information and sectoral expert assessments.

1. Theoretical justification for labour skills

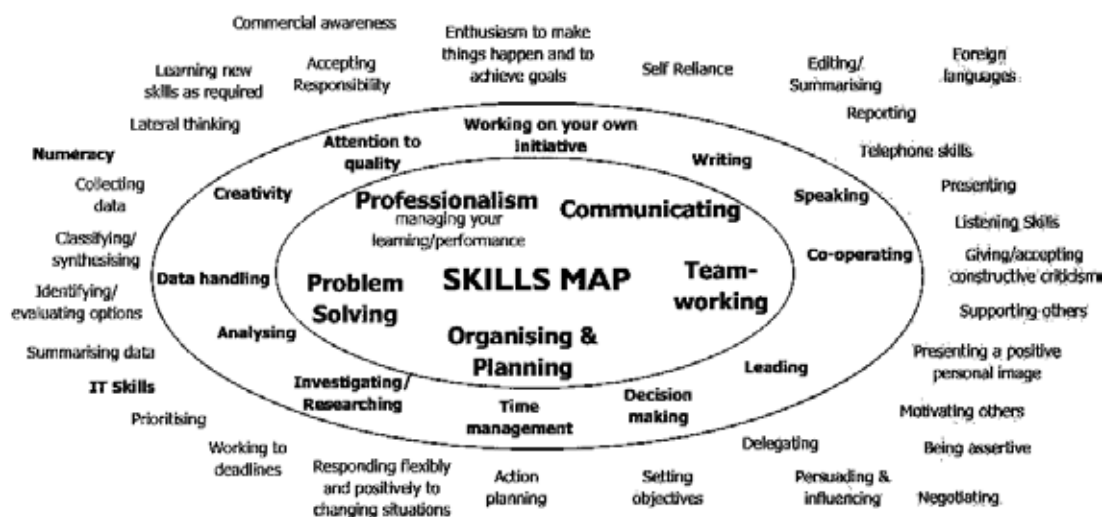
The performance of any job or profession requires certain knowledge, skills and experience that forms clusters of specific skills and competences. Skills are a decisive factor for the country's economic development and social-well-being. In Cambridge Business English Dictionary skills are defined as special skills acquired in training or practice that are useful for work (Cambridge, 2011). The academic information centre (AIC) with skills understands the ability to perform any action according to the quality and extent required (Terminology, 2016). Thus, skills means the ability to systematically and continuously perform complex activities or job tasks that include ideas (cognitive skills), cases (technical skills) and/or people (interpersonal skills). Bernhard Dachs (Dachs, 2018) from Austrian Institute of Technology reviews the academic literature on innovation and employment, and investigates what researchers think about technology and inequality. The pessimistic views on the impacts of new technologies to the labour markets is the starting point for author's short review of the literature on employment and innovation, analysing the successful creation and commercialisation of new products and processes. He gives an optimistic view about the future: innovation and technology as the main drivers of economic growths and new employment will be mainly labour-friendly in the long run. The development of labour markets in the last 20 years has followed the path of skill-biased technological change. The number of jobs and occupations that require only low skills or routine knowledge has constantly decreased. Innovation will create jobs in the future, but they will be in occupations other than those destroyed by technology, and will be characterised in particular by a low share of routine tasks and a high share of tasks that require creative and social skills. Michael Gibbs (Gibbs, 2017) stresses that technology has opposing effects of jobs. It facilitates automation, creating fewer and less motivating middle-skill jobs. Conversely, it complements social and innovation tasks, creating more interesting low- and high-skill jobs. This causes market polarisation, "hollowing out" demand for middle skill jobs, and increasing wage inequality. Policy makers should encourage technology that complements employees' work, and should foster education and training that help workers to adapt to change. There are given key findings about technology revolution effects on jobs and labour market. Speaking about skills are most likely to be valuable with future technological change he pays attention to abstract thinking, analytical, and problem solving skills, creativity, and social and communication skills. Gracia Santoso (Santoso, 2016) presents some solutions how to synthesise and build on the discourse of

technological implications for the workforce in a post-information age. He has found that throughout the history, the advance of technology is correlated with social issues, particularly issues of rising unemployment as a result of skills obsolescence and mismatch. Individuals can also pursue the increasing job opportunities emerging within knowledge-intensive and technology sectors. Taking into account trends about development green economy and its influence to labour market, Con Gregg and Olga Strietska-Ilina, from ILO (Gregg, 2015) provides guidance on how to embark on the identification of current and anticipation of future skill needs for the green economy and green jobs. The term “skills for green jobs” is understood broadly as referring to all skills that are necessary for the successful performance of tasks for green jobs and to make any job greener. That includes both core and technical skills and covers all types of occupations that contribute to the process of greening products, services and processes, not only in environmental activities but also in brown sectors. New jobs and new job tasks require different skills. Anticipating new skill needs therefore becomes critical. Analysing current situation in Sweden, Gunhild Wallin, Ingegerd Green (Wallin, 2017) stresses attention, that today exists separate education policies, labour market policies and business policies – three different “pipelines“, which are headed by different government ministries and each have their own separate authorities and agencies. They all deal with issues and take initiatives which in the end are still all about skills provision but only the labour market knows which skills are needed. He recommends to introduce a far more holistic approach and cooperation in order to make the skills provision system work in a labour market perspective, where competency policies have been lifted up to the highest level.

Skills enable workers (employees) to adapt more quickly to the dynamic changes of the labour market by providing employment, access to income, social guarantees and mobility, enterprise (employers) skills are a key component of productivity, competitiveness and innovation capacity, while for society as a whole, skills development provides a higher quality of life, better public services, more active and open a more open company (ETF Position Paper, 2012).

On the demand side, skills define the labour markets with the professions required. Individual skills, or a set of skills required for a particular profession and their level can be common to a number of professions (Kasalis, Jekabsone et al., 2017). Today, the boundaries of profession groups are becoming increasingly blurred, less standardised and more heterogeneous than in the past. The skills required for a particular job vary enormously, even within the same profession. The same profession is often associated with jobs that differ in terms of the working environment, the size of the workplace, the tools and materials used, and the final product, so it is important to understand the skill mix of each individual and the skills required by each job.

On the supply side, skills are developed within the framework of the education system or directly in the labour market (Strategically Most Demanded Skills in Future Latvia, 2013). On the supply side, formal levels of education are most commonly used as a skills-specific size, assuming that candidates of unsuitable quality cannot meet certain requirements for successful completion of the educational programme. However, the use of the formal level of education in the assessment of the skill set gives only a notional preference for the skills required by the employer (Kasalis, Jekabsone et al., 2017). In the labour market today there is a demand for flexible and competent staff who are prepared to carry out a number of job responsibilities at the same time, with a variety of key skills, such as foreign language skills, computer skills and good social and cross-cutting skills (contacts, communication, presentation, negotiating skills, etc.), in addition to the specific needs of the profession. (see Fig. 1).



Source: University of Kent, 2018.

Fig. 1. Skills map

THE OECD's 2017 Skills Report highlights that skills can help countries to integrate into global markets and specialize in technologically advanced sectors (OECD, 2017). In order to specialize in technologically developed industries, countries need:

- workers with good social and emotional skills (e.g. management, communication, self-organization) that complement cognitive skills;
- workers with qualifications that faithfully reflect their capabilities, as many technologically developed sectors require employees to meet complex tasks.

THE OECD stresses that countries need to invest in skills not only to help people enter the labour market and protect them from the risk of job loss and low quality, but also to increase international competitiveness and economic progress in the interconnected world.

The pooling of available information on different skill classification systems concluded that there is no uniform approach to the classification of skills, as it is determined both by differences in education systems and by the specificities of the labour market; however, both CEDEFOP and OECD (for example, CEDEFOP, 2012, OECD, 2017) and ESCO (ESCO, 2018) and European Qualifications Framework (EQF, 2018) skills are grouped into general or basic skills (which include skills such as reading, writing, computing, computer skills, knowledge), as well as transversal skills and technical or work-related skills.

2. Skill Matrix Creating Methodology

The availability of data, as well as the differing assumptions about the place of skills in the interaction between labour market demand and supply, mean that there is no single, well-established methodology for forecasting skills demand. The range of methods used is broad and diverse, ranging from employer surveys, expert and focus group discussions to sector or profession studies and model-based projections (Strategically Most Demanded Skills in Future Latvia, 2013). Many countries, including Latvia, forecasting takes place through econometric models, which allow for a more objective assessment of the expected changes in the labour market under the influence of various factors (migration, economic sector structure, etc.). Currently, in Latvia, forecasts show only the demand of the labour market by profession group, but there is a lack of information on the demand for professional skills needed to perform certain job tasks. In order to create a skill set matrix, a database was created that imported skills from LR Professions Standards (Professional standards, 2010), as well as those from ESCO.

In order to include the necessary information in the database, 8672 skills were compiled in a machine-readable format from 305 current profession standards for the skills needed to perform basic professional tasks for each profession, as well as lists of key skills from the ESCO V1 working version and SRS data on registered employees in the professions, information included in the Classification of Professions about the tasks for profession groups. Based on this information, the initial skill model (pre-model of skill sets) was created for each group of professions, including 20-25 skill sets, while maintaining the lists of net skills. In the course of the follow-up study, the initial pre-model information for skill sets was used during field work, interviewing selected sectoral experts, to encourage the achievement of the objectives of the interview by clarifying the views of the interviewees on the skill sets needed for a particular group of professions. In total, more than 300 experts were interviewed. The results of the interviews were entered into the database by modifying the pre-model information of the skill set, supplementing it with new skills or their sets, and by excluding individual skill sets as inconsistent with the current situation in the labour market. The information obtained following the interviews was analyzed, aggregated and, where necessary, directed to further discussion in the focus group discussions. At the end of the field work, the results of sectoral expert interviews and focus group discussions were collected and entered in the database. A list of nearly 2,500 skill sets came after compiling the results of expert interviews and focus group discussions. A follow-up analysis was carried out to identify the major skill sets that are typical of individual profession groups with a view to further unifying them in order to develop a list of skills compiled by the final profession groups (skill set matrix) to be added to the labour demand short-term forecasting model in order to obtain forecasts for the skills required. When performing skill set aggregation and unification, a skill set matrix was created with 1970 skill sets for 383 individual occupational groups.

3. Results obtained and their applicability

The development of the skill set matrix was carried out in several consecutive stages. In the first phase, a database was created and a clean skills analysis and unification was carried out, the creation and refinement of skill sets in cooperation with sectoral experts, and the analysis and generalization of the results obtained, leading to the creation and preparation of a skill set matrix for inclusion in short-term forecasts. The analysis of skill sets for individual occupational groups has been carried out in nine main vocational groups, bringing together the most important (according to the expert assessment of the major skill sets of the profession group concerned) skill sets of individual occupational groups in the main group and dividing the top 10 skill sets for each core group. All the information collected and analyzed in the course of the study is stored in a database enabling individual groups of professions and their respective skills to be considered in terms of their importance and level, as well as to obtain information on individual skills and their spread across different groups of occupations.

An analysis of the skills clusters relevant to the occupational groups concluded that all major occupations included compliance with regulatory requirements and other regulatory instruments, planning and organizing the work to be carried out, working in the team/group, communicating and cooperating, and self-education, learning new knowledge and skills. These skill sets are typical of many profession groups, which are also reflected in the forecasts of the required skills. The skill set to comply with the requirements of regulatory enactments and other regulatory instruments is generally mentioned in 98 different profession groups and is the first place in the skills pool, both by type and level. The skill set to plan and organize the work to be carried out is listed in 25 profession groups and is in the second place on the top of the skills required by type, while the second position on the top is a set of skills to be able to drive and manage the machinery. The third-place in Skills Top is a set of skills to communicate and collaborate with staff, partners, owners, mass media, clients, institutions identified in 40 different occupational groups, while at level the third most important skill set is to ensure the provision of quality, customer-oriented services found in 19 different occupational groups. The five more

demanding skill sets still contain skill sets such as understanding and realizing a company's marketing policy and working in a team/group.

In general, an analysis of the 10 most demanding skill sets by type shows language skills (managing national language and using the professional terminology of the sector in the national language and one or more foreign languages), computer skills, the ability to collect and provide information, and self-education skills, new knowledge and skills. On the other hand, technical skills without the skills to comply with the requirements of regulatory enactments and other regulatory documents have been selected to carry out procedures related to the placement of goods, as well as to ensure the ordering, acceptance, accounting, storage of goods required for commercial workers in the first place of the top of the most demanding professions (see Table 1).

Table 1.

Skills Top 10 in Latvian labour market in 2017

	Skill set/ skill set type	basic	transversal	technical
1.	To comply with the requirements of regulatory enactments and other regulatory documents			X
2.	Planning and organizing the work		X	
3.	Communicate and collaborate with staff, partners, owners, mass media, customers, institutions		X	
4.	Understand and realize the company's marketing policy		X	
5.	Working in the team/group		X	
6.	Self-education, learning new knowledge and skills	X		
7.	Provide quality, customer-oriented services			
8.	Respect the norms and principles of professional ethics		X	
9.	Work with office equipment and computer programs			X
10.	Using the professional terminology of the sector in the national language and one or more foreign languages	X		

Source: author's calculation based on skills matrix results.

It should be noted that the study resulted in an instant photograph of the classification of labour market professions of the situation on the labour market with specific occupational groups and the necessary skill sets, according to their importance for sectoral experts in 2017. The developed skill set model is considered to be open, i.e. it can be supplemented, updated and updated when the labour market situation changes. Similarly, the breakdown of skills (skill sets) by type cannot be unambiguously considered, since it cannot be expressly argued for the unconditional ownership of a particular type of skills that depends to a large extent on the analysis of the target and on the chosen grading approach. Border crossings between basic and rolling skills, rolling skills and technical skills and technical skills and basic skills are not strictly defined: they are blurred, so they may flow from one type to another depending on the circumstances and tasks pursued. As a result of the work carried out, the final list of pooled skill sets by profession group and type is applicable in the short-term forecasting process of labour demand, showing not only the quantitative changes of the requested workforce by profession group but also the ongoing potential changes in skills demand. The authors would like to point out that complementing the short-term forecasting of the work force with trends in demand for skill sets is important not only in the organisation of the work force training process but also in other social processes.

Conclusions and recommendations

1. By skills has to be understood the ability systematically and continuously perform complex activities or job tasks that include ideas (cognitive skills), cases (technical skills) and/or people (interpersonal skills).

2. Skills are grouped in general or key skills, as well as in transversal and technical or job-related skills, but the division of skills by type is not unambiguously traversed, as it cannot be expressly argued for the unconditional presence of a specific type of skills that depends to a large extent on the analysis of the target, as well as the chosen classification approaches.
3. The study carried out revealed that there is no uniform understanding of skills in Latvia and different application documents (ESCO, profession standards, qualification profiles and others) show different wordings in terms of essentially equal or very similar skills, which make it difficult to carry out their systematisation and analysis.
4. In 2017 in Latvian labour market in all major occupational groups among the most important skills were mentioned to comply with the requirements of the regulatory enactments and other regulatory documents, to plan and organize the work done, to work in the team/group, to communicate and cooperate, and to self-educate, to acquire new knowledge and drafts.
5. According to the researchers' assessment, a uniform skill classification system (unified skill classifier) should be established in Latvia, which could be used by the institutions involved in the development of employment policies of the State Employment Agency, Ministry of Welfare, Ministry of Science and Education, Ministry of Economy and other, by developing occupational standards, skill forecasts, etc. However, it should be noted that different skill detail is needed for each needs: for example, educational planning requires very detailed information on specific skills, but skill sets are up for the needs of labour market forecasts, because in deeper detail skills are closely linked to groups of occupations, and the forecast for the demand for these skills will be closely linked to the specific group of occupations.

Bibliography

- Anticipating and Matching Demand and Supply of Skills in ETF Partner Countries, 2012. ETF Position Paper, ETF.
- Building on Skills Forecasts - Comparing Methods and Application, 2012. Research paper No.18. – CEDEFOP, Luxembourg: Publications Office of the European Union.
- Cambridge Business English Dictionary, 2011. Cambridge University Press, 783 p.
- Classification of Occupations, 1998. [Online] Available at: <https://www.vestnesis.lv/ta/id/50253-profesiju-klasifikators> [Accessed 5 November 2018].
- Dachs, B., 2018. The Impact of New Technologies on the Labour Market and the Social Economy, Austrian Institute of Technology, Brussels, European Union, [Online] Available at: <http://www.europarl.europa.eu/stoa/> [Accessed 5 April 2019].
- Desfetanis S., 2012. Skills for Competitiveness, Country Report for Italy, OECD Local Economic and Employment Development (LEED), Working Papers 2012/04.
- Elias, P., 1997. Occupational Classification (ISCO-88): Concepts, Methods, Reliability, Validity and Cross-National Comparability, OECD Labour Market and Social Policy Occasional Papers, No. 20, OECD.
- ESCO Database, 2018. [Online] Available at: https://ec.europa.eu/esco/portal/escopedia/ESCO_v1 [Accessed 20 November 2018].
- European Area of Skills and Qualifications, Report, 2014. Special Eurobarometer 417, June 2014, 194 pp.
- European Qualifications Framework (EQF), 2018. [Online] Available at: <http://www.nki-latvija.lv/en/par-eki> [Accessed 20 November 2018].
- Gibbs, M., 2017. How is New Technology Changing Job Design?, University of Chicago, USA, [Online] Available at: <https://wol.iza.org/articles/how-is-new-technology-changing-job-design/long> [Accessed 5 April 2019].
- Gregg, C., Strietska-Ilina, O., 2015. Anticipating Skill Needs for Green Jobs, ILO, Geneva, 119 p.
- ISCO website, 2018. [Online] Available at: <https://www.ilo.org/public/english/bureau/stat/isco/index.htm> [Accessed 20 November 2018].

Kasalis E., Jēkabsons S., Ozoliņa E., Dzene L., Briedis J., Solovjovs J., Purmalis K., Ķeire K., 2017. Izvērtējums par profesijām atbilstošo prasmju saraksta izveidi, Corporate Consulting, Rīga, [Online] Available at: http://www.nva.gov.lv/docs/31_599570eb5343e6.41004842.pdf [Accessed 20 Januar 2019].

OECD Skills Outlook 2017, Skills and Global Value Chains, OECD Publishing, [Online] Available at: http://www.oecd-ilibrary.org/education/oecd-skills-outlook-2017_9789264273351-en [Accessed 20 Januar 2019].

Professional Standards, 2010. [Online] Available at: http://www.lm.gov.lv/upload/darba_devejiem/prof_stand_1210.pdf [Accessed 5 November 2018].

Santoso, G., 2016. Technology as a Driver of Skills Obsolescence and Skills Mismatch: Implications for The Labour Market, Society and the Economy, The ANU Undergraduate Research Journal, Volume Seven, The Australian National University, Canberra, Australia.

Skills, Qualifications and Jobs in the EU: The Making of a Perfect Match?, 2015. CEDEFOP, Luxembourg: Publications Office of the European Union.

Skills Panorama Portal. 2018. [Online] Available at: <https://skillspanorama.cedefop.europa.eu/en> [Accessed 20 November 2018].

Skills Supply And Demand in Europe. Medium-Term Forecast up to 2020, 2010. CEDEFOP, Luxembourg: Publications Office of the European Union.

Strategically Most Demanded Skills in Future Latvia, 2013. Research, Project and Quality Management Ltd, Riga, Available at: https://www.em.gov.lv/files/tautsaimniecibas_attistiba/1st_research_skills_eng.pdf [Accessed 20 November 2018].

The European Skills and Jobs (ESJ) Survey, 2018. [Online] Available at: <http://www.cedefop.europa.eu/en/events-and-projects/projects/european-skills-and-jobs-esj-survey> [Accessed 20 November 2018].

The Flux Report, 2014. Right Management ManpowerGroup, January 2014 [Online] Available at: https://www.manpowergroup.co.uk/wp-content/uploads/2015/04/The-Flux-Report_whitepaper.pdf [Accessed 20 Januar 2019].

Terminology in the Context of the Introductory European Qualifications Framework And the Introductory Framework for Latvian Qualifications, 2016. Study Report, AIC, Riga, 17 pp.

University of Kent, The UK's European University, Careers and Employability Service, 2018. [Online] Available at: <https://www.kent.ac.uk/ces/> [Accessed 20 September 2018].

Wallin, G., Green, I., 2017. Only the Labour Market Knows Which Skills are Needed, Oslo Metropolitan University, Nordic Labour Journal.

World Indicators of Skills for Employment (WISE) database, 2018. [Online] Available at: <https://www.oecd.org/employment/skills-for-employment-indicators.htm> [Accessed 20 November 2018].