

COMPETENCES NEEDED ON THE FUTURE LABOUR MARKET – RESULTS FROM DELPHI METHOD

Anna Rakowska
Maria Curie-Sklodowska University in Lublin, Poland
3ar@wp.pl

Marzena Cichorzewska
Lublin Polytechnic, Poland
mcichorz@op.pl

Abstract:

Article presents an important issue in the context human resource management strategy, in particular discusses the problem of competences that should be possessed by employee in next future and which are critical for organizational survival. On the base of the literature review, and Delphi method undertaken in the group of international experts, the most critical competencies needed on labour in the next future will be identified. The paper present results gathered in first stage of Delhi method, while next stage will be presented later, on the conference. First analysis shows that there is growing importance of a group of new competences, while some other are expiring. The results of this study may be used in creating new HR strategies and can help in educating and developing future workforce.

Keywords: competences, future skills, development, human resources, strategy

1. PROBLEM OF FUTURE SKILLS

Dynamic processes which have emerged in the recent years in the socio-economic domain as a result of globalization, development of advanced technologies, mainly ICT, as well as migrations, cultural changes, including values and attitudes of individuals and whole societies, determine significant changes in the labour market, e.g. means for delivering work or emergence of new professions [6]. As a consequence, new skills must be developed in employees, new knowledge supplied and new attitudes promoted. HR experts clearly indicate that employees' and managers' competencies will undergo considerable changes [8; 9]. Studies conducted by the Institute for the Future for the University of Phoenix Research Institute reveal 10 competencies of the employee of the future key for the developed economies. The competencies are the following: sense-making, social Intelligence, novel & adaptive thinking, cross-cultural competency, computational thinking, new-media literacy, transdisciplinarity, design mindset, cognitive load management, virtual collaboration [6].

In light of the above, the issue of the employee of the future's competencies ought to be discussed as, in the coming years, it will largely determine HR studies due to its chief role in practice.

2. RESEARCH METHOD

On the basis of available literature, research reports and own studies¹, authors of the present paper attempt to assess the dominant trends in the employee of the future's competence development and diversification of the process in various countries. The objective of the paper is to present the study and conclusions, especially as regards human resources management.

The study was conducted by means of the Delphi method. International experts were selected for the panel. The panel included: scholars of HR management, managers and practitioners- HR experts. In total, 45 experts participated in the first round of the study. 32 experts are from Europe, including 9 from Spain, 9 from Poland, and other EU member states. The remaining experts (14) come from Asia and North America. The second round of the Delphi method study is scheduled to take place in February 2016, which will be preceded by a discussion pertaining to the first round (direct meetings and video-conferences).

The questionnaire contained 31 key professional competencies. The list of these was composed on the basis of the literature review and reports: Future Work Skills 2020, and The Future of Work: Jobs and skills in 2030 [1;4;6;9;10;12;13;14;16]. The experts' task was to evaluate the significance of the competencies as regards labour market at present, i.e. in 2015, and in the 5-years' perspective. Five-point Likert scale was applied in order to carry out the assessment. As previously stated, the study will be conducted in consecutive stages. Stage one encompasses the questionnaire, calculation of results, meetings and discussions of the results. Stage two is connected with the completion of questionnaires, stage-two's results being sent out, feedback and final report compilation.

Full description of the round two's results as well as research results will be presented during MakeLearn & TIIM 2016 conference in Timisoara (Romania).

3. RESULTS

At the present stage, i.e. upon the conclusion of the first round, it can be stated that, according to the experts, the first 10 competencies highlighted in the framework of Future Work Skills 2020 project, will gain significance in the next 5 years (Tab. 1). This is especially true for the following competencies: virtual collaboration, new media literacy, social intelligence, novel & adaptive thinking, cross cultural competency. However, expert opinions are differential, which seems to be acknowledged by the standard deviation. On the other hand, among the remaining 21 competencies (Tab. 2), experts see the following ones as key in 2020 (upon the completion of stage one): ability to work in diversified teams, big data, cloud management proficiency (a considerable increase of significance in relation to 2015), high technology entrepreneurship (a significant rise as well), e- cooperation, or flexibility. However, this is only the initial stage of the study. Full conclusions will only be reached after interviews

¹ The study was carried out as part of the project subsidized by the Ministry of Science and Higher Education. Project title: Competence potential of selected employees' groups in terms of diversity management in innovative enterprises, nb 2013/09/B/HS4/01307.

with experts and a further completion of questionnaires scheduled to be concluded in February and March 2016. Final conclusions will be presented at MakeLearn & TIIM 2016, Timisoara (Romania).

Table 1: Assessment of 10 competences today and in 5 years perspective (first stage of Delhi method).

	Min. 2015	Max. 2015	Min.2020	Max 2020	Mean 2015	Mean 2020	SD 2015	SD 2020
1. Sens making	2	5	2	5	3,74	4,46	,919	,780
2. Social intelligence	3	5	2	5	3,94	4,34	,725	,906
3. Novel & adaptive thinking	2	5	3	5	3,86	4,34	,974	,765
4. Cross cultural competency	2	5	1	5	3,80	4,34	1,023	,998
5. Computational thinking	2	5	0	5	3,51	4,19	,818	1,167
6. New media literacy	2	5	0	5	3,83	4,36	,822	1,073
7. Transdisciplinarity	2	5	0	5	3,49	4,22	,951	1,098
8. Design mindset	0	5	0	5	3,34	3,78	1,136	1,355
9. Cognitive management	0	5	0	5	3,57	4,31	1,092	1,091
10. Virtual collaboration	0	5	0	5	3,63	4,50	1,060	1,056

Source: Data gathered from conducted study

Table 2: Assessment of 21 competences today and in 5 years perspective (first stage of Delhi method).

	Min 2015	Min 2020	Mean 2020	Mean 2015	SD 2020	SD 2015
11. Conscious self-development	0	0	3,00	2,34	2,138	1,955
12. Self-mobilize_long time working	0	0	3,92	3,69	1,273	1,051
13. Personal stress management	2	2	4,36	3,64	,833	,857
14. Learning skills	0	0	4,14	3,49	1,150	1,100
15. Flexibility	2	2	4,47	3,86	,810	,879
16. Uncertainty tolerance	0	2	4,33	3,47	,926	,944
17. Face to face communication	0	0	3,47	2,06	1,362	1,927
18. Building trust and good relations	0	1	4,17	2,17	1,056	1,921
19. E- cooperation	0	0	4,42	1,83	1,052	1,884
20. Cooperation_represents different cultures	0	0	4,06	1,74	1,308	1,861
21. Cooperation_represents different age	1	0	3,64	2,61	1,376	1,001
22. Cooperation_represents different sex	1	0	3,58	3,46	1,296	1,067
23. Cooperation_represents different religion	1	0	3,47	2,92	1,404	1,017
24. Project management	0	1	4,33	3,24	,986	,927
25. Ability to work in diversified teams	2	1	4,53	3,77	,845	,877
26. Social entrepreneurship	0	0	3,83	3,14	1,254	,939
27. High technology entrepreneurship	1	1	4,43	2,68	,979	1,173
28. Collaborative innovation/ usage of web tools	2	2	4,36	3,54	,961	,821
29. Big data, cloud management proficiency	0	2	4,42	2,13	,906	1,784
30. Formal education / diploma, Msc, BA	2	1	3,47	4,03	1,320	,954
31. Work experience	2	2	4,06	3,83	1,094	,923

Source: Data gathered from conducted study

4. SUMMARY

Authors hope that the final results will be of academic and utilitarian character. The results may be used by universities in order to introduce changes in the educational process, so that students' skills fit labour market's requirements. They may also be applied in order to minimize the employee competence gap, which is largely conditioned by globalization, and technological and demographic changes. The results may also be used for the design of strategies for professional development in the

context of the future needs of organisations as well as for the development of talent management programs in organizations. As far as academic significance is concerned, knowledge of expert opinions regarding trends in the significance of diverse labour market competencies is critical for the development of new professional competencies' models, which ought to be associated in the future with methods for development and improvement of these competencies.

REFERENCE LIST

1. Alexander R.A., *A Modified Delphi Study of Future Crises and Required Leader Competencies*, 2008, University of Phoenix, USA.
2. *Competence for Future Labour Market, Report under the Magnifying Glass II (Kompetencje przyszłości, Raport Rynek Pracy pod Lupą II)*, Toruń, 11 June 2015 r., <http://podlupa.wup.torun.pl/wp-content/uploads/2015/06/Kompetencje-przyszlosci.pdf>, [20.01.2016].
3. *Developing potential future employee: a new way to mismatch of talent (Rozwijanie potencjału przyszłego pracownika: nowy sposób na niedopasowanie talentów)*, Manpower 2010, www.manpower.pl, [20.10.2015].
4. Dermol V., Rakowska A. (ed.) 2014 *Strategic Approaches to Human Resources Management Practice*, ToKnowPress Bangkok; Celje; Lublin.
5. Donovan K., The competence of employees, constituting a competitive advantage to companies to build or buy, *Kompetencje pracowników stanowiące o przewadze konkurencyjnej firm: budować czy kupować?*, Raport Manpower Group Solutions, www.manpowergroupsolutions.com, [20.12.2015].
6. *Future Work Skills 2020*, Institute for the Future for the University of Phoenix, Paolo Alto 2011, www.iff.org, [20.11.2015]
7. Houwink, E., Henneman L., Westerneng M., van Luijk Sch., Cornel M., Dinant J.G., van der Vleuten C., *Prioritization of future genetics education for general practitioners: a Delphi study*, *Genetics in medicine* (2012) 14, pp.323-329.
8. Lonnblad J., Vartiainen M., *Future Competences – Competences for New Ways of Working*, University of Turku, Brahea Center for Training and Development, 2012, dostępne on-line: http://www.futurex.utu.fi/julkaisut_Future_Competences.pdf. [20.10.2015]
9. Rakowska A., 2009, *Challenges for Polish Managers in the 21 st century*, *Journal of Economics and Organization of Future Enterprise*, Vol.3, nr , pp.39-48.
10. Rieckman M., *Future-oriented higher education: Which key competencies should be fostered through university teaching and learning?* 2012 *Futures*, Vol.44, Issue 2, March 2012, Pages 127–135, Special Issue: University Learning.
11. Riem N., Boet S., Bould M.D., Tavares W., Naik V.N., *Do technical skills correlate with non-technical skills in crisis resource management: a simulation study*, *British Journal of Anaesthesia* 109 (5):723-8(2012).31 July 2012.
12. Stevens, P. A., *Skill shortages and firms' employment behavior.*(2004) London: National Institute of Social and Economic Research.
13. Spitz-Oener, *Technical change, job tasks, and rising educational demands: Looking outside the wage structure*. *Journal of Labor Economics*, (2006). 24(2), 235-270.
14. Shoop J., Lyytinen K., Boyatzis R., Case Western Reserve University The Critical Competencies of Successful Senior IT Leaders - A Field Study, 2015, <http://aisel.aisnet.org/icis2015/proceedings/ISgov/9/> [20.01.2016].
15. *The Future of Work: Jobs and skills in 2030*, Evidence Report, February 2014, www.ukces.org.uk/thefutureofwork, [27.12.2015]
16. Williams, J., Clemens, S., Oleinikova, K., & Tarvin, K., *The skills for life survey: A national needs an impact survey of literacy, numeracy and ICT skills*. 2003, London UK Department for Education and Skills.
17. www.2014.kompetencjeprzyszlosci.pl, [10.12.2015]