



Participation of Individuals in Education and Training: A Portrait of European Union Countries in Digital Age

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Abstract:

Official statistics provides indicators on economic, social, demographic, health, education, living conditions and environment development. Eurostat's Sustainable Development Goals (SDGs) monitoring reports deliver a quantitative assessment of European Union (EU) progress towards reaching the SDGs. The SDG 4 "Quality Education", contains indicators measuring progress towards SDG 4: Basic education, Tertiary education and Adult learning indicators. An increasing participation in basic and tertiary education is visible, but the progress in adult learning is slower.

This research explores how the Eurostat indicator Individuals who have basic or above basic overall digital skills (DigSkill2019) across 31 European countries in 2015 and 2019 depends on: Gross Domestic Product per capita in Purchasing Power Standards (GDPpcPPS2019), Gross domestic expenditure on R&D (GERD2019) and Adult participation in learning (APinL2019). Correlations among all the variables are positive, the strongest being between DigSkill2019 and APinL2019 (0.76). When analysing DigSkill2019, a multiple linear regression model, explaining 70.94% of the total variation, with a low regression coefficient of variation (13.8%), was estimated, having the regressors and the overall model highly statistically significant, with no assumptions violation.

Hierarchical clustering, with Ward Linkage and Squared Euclidean Distances, resulted with four clusters of 31 European countries regarding their attitude and praxis towards education: Cluster of 10 "The most advanced" countries (Belgium, Germany, Austria, Estonia, France, Netherlands, United Kingdom, Denmark, Finland and Sweden); Cluster of 3 "The less advanced" countries (Bulgaria, Romania and North Macedonia); Cluster of 16 "Over average" countries, and Cluster of 2 countries, "Advanced with a strong outlier in GDPpcPPS", Luxembourg and Ireland.

Assessments over time between countries, produces conclusions as the basis for decision and policy making. The same analysis and models were developed for 2015 and 2019, showing that the 2019 brought weaker correlations and several countries changed the cluster, regarding reached indicators on attitude and praxis towards education.

Keywords:

Statistical Indicators; Individuals who have basic or above basic overall digital skills; Gross domestic expenditure on R&D; Adult participation in learning; Hierarchical clustering