Online-G20-O1 Cities, Regions and Digital Transformations Day 1

lunes, agosto 22, 2022
14:03 - 15:30

Details

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Digital Readiness of Regions in Europe: the impact of the pandemic

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Abstract

The occurrence of the COVID-19 pandemic has raised awareness among individuals and across business sectors on the importance of digital connectivity, technologies, services and solutions. Concurrently, it has stimulated regional policymakers in setting more favourable conditions to take advantage of the growth opportunities related to the digital transformation of society and economy. Although this transformation began well before January 2020, the health crisis caused by the pandemic has undoubtedly accelerated technological change and hyperconnectivity.

This paper focuses on the understanding of the level of territories' readiness in Europe with respect to digital transformation, with a focus on the digital transformation of businesses. Upon the evidence that the health crisis increased the digital divide in some domains because of unequal access to digital infrastructure and services, the paper also compares the status of digital readiness in a pre- and post-Covid situation to see how and if the Digital Readiness of Regions (DRR) was affected by the pandemic. DRR is measured against a set of indicators for which data is available at the regional level. These indicators are grouped against the four components of the Digital Compass, i.e., infrastructure, skills, public services and businesses, to reflect the monitoring of the Digital Decade implemented by the Commission through its DESI index. Since the indicators used in DESI are not measurable at the regional level, we identified a limited number of proxy indicators to represent DRR.

Preliminary evidence highlights a persisting divide between rural and urban areas in terms of fast and ultrafast broadband coverage across European territories. There are also important differences across European regions in terms of users' digital skills and in some countries differences between individuals living in urban and rural areas widened in 2020 (post-Covid). The question concerning whether the digital changes triggered by the pandemic are permanent and have structurally transformed our European society is still open. DRR, in the absence of a regional DESI able to inform subnational public authorities about their progress against the four cardinal points of the Digital Compass, is proposed to support the taking of actions towards favourable structural conditions for digital transformation.

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Exploring Digital Divide Influence on Regional Development Differences in Turkey

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Abstract

The “Digital Divide” differs between countries as well as between regions, even between individuals. While many indexes have been formulated for detecting transformations at an international level, there are limited studies at a regional level. Considering the multi-scale dimension of the digital divide, a main research question is addressed in this paper: How does the digital divide affect the development disparities in different regions of Turkey? To do so, firstly, the ICT Development Index is used to compute the digital divide within different regions of Turkey (Nuts1 and Nuts3). Using QGIS software and the ICT development index, the result maps reveal regional differences by visualizing them. The first calculations allow us to analyze the correlation between the ICT Development Index and Socio-Economic Development Ranks of Provinces and Regions. In this context, Spearman Rank Correlation is used. The preliminary findings of the two indexes expose significant differences between the east and the west regions of Turkey, both in Nuts1 and Nuts3 scales. In the light of the correlation analysis, it can be said that there is a positive relationship between the ICT Development Index and the Socio-Economic Development Ranks of Provinces and Regions. However, the gap is lessened in the ICT Development Index compared to the Socio-Economic Development Rank. The top score (TR1 Istanbul, 4.05) is more than double the lowest (TRB Middle East Anatolian, -0.96) in the Socio-Economic index. On the other hand, the ICT Development Index gains closer values to each other, TR1 Istanbul, 8.10 and TRC Southeastern Anatolia, 5.00, respectively. In Turkey's case, it is evident that digital technologies are diffused faster, although their socio-economic benefits have been absorbed slowly. The results can be a guide for the future digitalization policies of Turkey.

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Information society and socio-economic sustainability: analysis of the performance of European regions between 2011, 2018 and 2020

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Abstract

INFORMATION SOCIETY AND SOCIO-ECONOMIC SUSTAINABILITY: ANALYSIS OF THE PERFORMANCE OF EUROPEAN REGIONS BETWEEN 2011, 2018 AND 2020.
In the current development paradigm shift, understood in a holistic, integrated and sustainable way (Rothe, 2020), the progress of the Information Society for Households and Individuals and digital transformations is an opportunity for the socio-economic development of European regions, but it can also become a source of new economic and social inequalities (Helsper, 2021; Ramírez-Correa et al., 2020). It is of interest to know from a spatio-temporal perspective, the differences in behaviour at regional level in the relationship between ICT use-access by households and individuals (ICT-H+i) and social and economic sustainability (SES). This would help to identify which geographical areas need to make greater efforts to advance in digitization in order to achieve progress in social and economic sustainability. Within this framework, the aim of this research is to identify the types of behaviour of the ICT-H+i/SES binomial in European regions, between 2011, 2018 and 2020.
This research uses an own elaboration database constructed with variables resulting from a previous factor analyses based on the information provided by the "Survey on ICT Equipment and Use" (10 variables) and the "Indicators for monitoring the SDGs of the 2030 Agenda" (10 corresponding to the SDG indicators 1, 3, 4, 5 y 10), available in Eurostat's regional statistics. The typology of European regions is obtained by means of cluster analysis in two stages: i) hierarchical cluster analysis; and ii) K-means analysis. An index is calculated with the sum of the factor scores in

z-scores to order the obtained groups according to the deviation with respect to the mean in the ICT-H+i/SES binomial defined by the three variables (factors) for each of the years studied. The initial results of this research show that, while between 2011 and 2018 the behaviours and characteristics of the ICT-H+i/SES binomial in the European regions underwent few modifications, the outbreak of the COVID-19 pandemic has led to a significant change in both the evolution and the characteristics of this binomial at the regional level. Hence, the spatial distribution of clusters in 2020 shows that regional differences in the binomial have increased, especially in Central Europe and Eastern Europe, as well as in the North-West (United Kingdom).
* This presentation is part of the results of the R+D+i PID2019-107993GB-I00 funded by MCIN/ AEI/10.13039/501100011033

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