Title: The Digital Divide in Europe in the 21st Century: a new methodological challenge for comparative social research

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In the most recent digital divide studies there are proofs of a constant digital division due to socioeconomic and technological factors, such as age, gender, education, income and occupation, as well as access type and level of digital media literacy.

Although the simple access to computers and web connected smartphones seems to present a less intensified digital divide, at least in what is called the first level digital divide (the simple access to computers and devices with web connection), in fact second level digital divide endures (economic, political, technological, skills, etc.). In Europe there is a growing set of scientific studies that have been approaching this phenomenon attesting the persistence of different gap's both at the access divide level as in the several second level divides.

The main purpose of this research is to study the Digital Divide factors in different European countries. This analysis integrates communication sciences and sociology concepts to improve a wide-ranging model in a new web-based digital media environment. The proposed model goes beyond the simple digital access divide models; as well as it allows to identify the unique characteristics of the internet European citizens' usages. For this, it was necessary to use micro-data of the 2008-2015 Eurostat's Community survey on ICT usage in households and by individuals. This data are not publicly available.

The use of microdata poses several challenges for researchers. Eurostat provided microdata in txt format, which required a complex range of procedures: data conversion to scv format; and conversion to SPSS files, and following variables categorization required according to the manual provided. Then, we developed a code in R to extract the values from the crosstabs needed to obtain the digital divide values among population risk groups and the four indicators access and use of digital technologies.

Compound ICT measurements (e.g. Digital Divide Index) and a Time-distance methodology will be used as secondary data.

From a preliminary analysis of the digital divide index on Eurostat ICT survey data between 2008 and 2013, we can state that although the relatively small decrease tendency of the gap between four risk groups (gender, age, low education and low income) and the European population until 2012, this positive trend was reversed in 2013. This occurs mainly due to the divide increase between both women and individuals with no or low education level.

Shortly, this project presents an innovative approach, not only because it will diminish the lack of in-depth research on digital divide, but also by introducing a set of data analysis methods that allow us to understand the complexity of Digital Divide phenomena in a much wider manner.