Measuring Digital Literacy in the Chilean Workforce

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Abstract : The development of digital literacy has become a fundamental element that allows for citizen inclusion, access to quality jobs, and a labor market capable of responding to the digital economy. There are no methodological instruments available in Chile to measure the workforce's digital literacy and improve national policies on this matter. Thus, the objective of this research is to develop a survey to measure digital literacy in a sample of 200 Chilean workers. Dimensions considered in the instrument are sociodemographics, access to infrastructure, digital education, digital skills, and the ability to use e-government services. To achieve the research objective of developing a digital literacy model of indicators and a research instrument for this purpose, along with an exploratory analysis of data using factor analysis, we used an empirical, quantitative-qualitative, exploratory, non-probabilistic, and cross-sectional research design. The research instrument is a survey created to measure variables that make up the conceptual map prepared from the bibliographic review. Before applying the survey, a pilot test was implemented, resulting in several adjustments to the phrasing of some items. A validation test was also applied using six experts, including their observations on the final instrument. The survey contained 49 items that were further divided into three sets of questions: sociodemographic data; a Likert scale of four values ranked according to the level of agreement; iii) multiple choice questions complementing the dimensions. Data collection occurred between January and March 2022. For the factor analysis, we used the answers to 12 items with the Likert scale. KMO showed a value of 0.626, indicating a medium level of correlation, whereas Bartlett's test yielded a significance value of less than 0.05 and a Cronbach's Alpha of 0.618. Taking all factor selection criteria into account, we decided to include and analyze four factors that together explain 53.48% of the accumulated variance. We identified the following factors: i) access to infrastructure and opportunities to develop digital skills at the workplace or educational establishment (15.57%), ii) ability to solve everyday problems using digital tools (14.89%), iii) online tools used to stay connected with others (11.94%), and iv) residential Internet access and speed (11%). Quantitative results were discussed within six focus groups using heterogenic selection criteria related to the most relevant variables identified in the statistical analysis: upper-class school students; middle-class university students; Ph.D. professors; low-income working women, elderly individuals, and a group of rural workers. The digital divide and its social and economic correlations are evident in the results of this research. In Chile, the items that explain the acquisition of digital tools focus on access to infrastructure, which ultimately puts the first filter on the development of digital skills. Therefore, as expressed in the literature review, the advance of these skills is radically different when sociodemographic variables are considered. This increases socioeconomic distances and exclusion criteria, putting those who do not have these skills at a disadvantage and forcing them to seek the assistance of others.