Fostering the appropriation of socially collaborative technologies as a strategy to tackle third-level digital divide

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Abstract. Finding perspectives that contrast the traditional digital divide literature aiming at «bridging the technology gap», is increasingly common. In this paper, we introduce the case of Madeira, a small Portuguese island characterised by low-pace digitisation and significant socioeconomic unbalance. Through this example, we hypothesize that in a close future, facing the spread of ICT use, a lower-educated population may underestimate the downsides of capitalistic digital tools adoption. Nevertheless, we also introduce the idea that scarcely digitised environment may constitute privileged location where to facilitate the spread of socially collaborative technologies.

Introduction

In recent decades, the increasing ubiquity and economic relevance of ICTs has led to a relapse on patterns of inclusion and exclusion from digital technologies access, use and outcomes, in what is referred to as the digital divide. In this scenario, the main focus of digital divide studies shifted from different kind of concerns. First-level digital divide focused on the need to provide digital access to disadvantaged social categories to reduce socio-economic inequalities (Anderson et al. 1995). Second-level digital divide, instead, stressed the importance of digital skills (van Deursen et al. 2016) and types of activities performed while connected

(Zillien and Hargittai 2009) as key factors to take advantage of ICTs access. Despite the increasing refinement of these investigations, third-level digital divide studies highlight the persistence of a deterministic vision suggesting that ICT adoption would automatically benefit underserved communities (van Dijk 2006). Ultimately, access to ICTs, having sufficient skills and using them to improve their own life condition does not guarantee positive outcomes. While gaining importance, the internet ultimately reflected more and more cultural and socio-economic dynamics of the off-line world, strengthening pre-existing inequalities (van Deursen and Helsper 2015).

This evolution in the socio-economical reality and in the theoretical debate has been paralleled by an increasing number of projects aiming at: 1) widening the benefits of digitisation to disadvantaged categories and, 2) actively tackling current socio-economic challenges. We could look at these projects as privileging «autonomous social collaboration» (Lyle et al. 2018) instead that subordinating it to the search for profit, like many contemporary technologies do (Srnicek 2016). Hereafter, we refer to the technologies enabling these goals as socially collaborative technologies, although this definition is still a work in progress.

The aim of building socially collaborative technologies has been tackled both from a design and an organisational perspective, leading to the ad-hoc development of artefacts (e.g. Commonfare, Fairbnb[1]) as well as to the discussion of different models to organise digital labour (e.g. platform cooperativism - Scholz 2014). These initiatives are committed toward a single piece of technology and, when investigating the context of potential adoption, they tend to focus on that specific technological product, as in the case of EU funded projects (e.g. Lyle et al. 2018). Little has been done in relation to the appropriation of diverse sets of socially collaborative technologies (with notable exceptions, e.g. Bødker et al. 2017 Huybrechts et al. 2017).

Contributing to overcome this gap, this poster presents a preliminary study on Madeira island in Portugal, aiming to better understand how to support the local population in appropriating socially collaborative technologies.

Madeira socio-economic context and ICTs

Madeira is a 250k inhabitants island located 1000 km from Portugal. To understand its economic structure and digitisation level, we relied on quantitative data[2], interpreted through one year of informal observations.

Despite Madeira is the second richest region of Portugal (Eurostat 2017), 28% of the population is at risk of poverty (INE 2104). This is possibly due to the

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[1] https://commonfare.net/ and https://fairbnb.coop/

[2] When not differently specified, the data refer to a second level analysis that we have performed on the microdata of a survey investigating the use of ICTs in Portugal - INE 2018 from https://bit.ly/2ITMcpu

relevance of a large scale tourist industry, requiring a high number of low skilled workers. This factor possibly influences also on the low education attainment rates: 61% of Madeirans left school when finishing primary education (14 years old, in Portugal) or even before.

Madeira digitisation is below both the European, and Portuguese averages (IDR 2016). Only 79% of households have internet access vs 85% European average, and only 61% of people use it daily vs 71% of European average (Eurostat 2017). To get a deeper understanding of this generic information, we tried to determine whether ICT access and use were equally distributed among socio-economic groups. We, therefore, crossed data on internet access, frequency of use and devices ownership with the four variables most commonly considered in digital-divide studies: age, education, gender and income. In all the considered cases there is a statistically significant relationship between the variables, although the strength of this relationship varies considerably. Age, education level and income are strongly related to having ever used the internet, but their importance decreases consistently once this first barrier is overcome. Age has the strongest relation with having ever used the internet and internet access, even if it does not seem to affect too much the frequency of use. Education level has a very strong relationship with having ever used the internet, and a moderate relation with access to internet and devices ownership. Income relates primarily to internet access, closely followed by having used internet at least once. Surprisingly, income seems to be less related to digital tools ownership than education and age. Another relevant aspect is that, despite smartphone use as the most common digital tool (57% of the population own one), our observations would suggest that they are mostly used as mobile phones: people do not type, they call. In fact, data indicates that only 37% of Madeirans smartphone plans has a data plan, suggesting the existence of economic barriers to mobile digitisation.

Discussions and conclusion

Merging the plausible scenario of increasing ICTs adoption with the data regarding economic and education inequality in Madeira, a few concerns arise, along with potential optimistic considerations.

First, its socio-economic characteristics may constitute an additional vulnerability factor toward the downsides connected to the adoption of capitalistic oriented digital tools. Indeed, a scarcely educated population that is already used to low wages may underestimate, for example, the additional risks of gig-economy platforms if compared to more traditional kind of employment.

Second, working for crowdsourcing platforms like Taskrabbit or Foodora may have some specific downside, if compared to performing the same job for a local employer. In particular, it may end official or informal forms of negotiation, and social control acted toward employers that may currently occur.

Finally, we wonder whether introducing socially collaborative technologies may be easier in this context than in more densely digitised ones. This last optimistic consideration is connected to the absence of an already saturated «digital market», and to the absence of an «installed base».

To support the appropriation of socially collaborative technologies in the specific local context, we will engage in two kind of fieldwork-based activities. First, a community study based on ethnographic methods, which serves to build in-depth knowledge of local society and identify emerging needs that could leverage participation; and second, a participatory process aiming at better understanding participants ICTs use, to support the appropriation of socially collaborative technologies that may meet participants' values and needs.

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