A Plight to Descry: Data on Standby

Waging a War on Poverty through Data Science

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I. INTRODUCTION

Data Science, a field that puts order into chaos, transforms the ambiguity of abstractions into tangible information, and moves beyond mere theories to introduce concrete changes in the world around us. Change! An abstract notion likely to become concrete if the promising developments this field has to offer are successfully implemented in developing countries where the infrastructure does not allow for a smooth use of the strategies and techniques opted for in developed countries. My article was initially inspired by Professor Joshua Evan Blumenstock's attempt at establishing an alliance between Data Science and Economy with the view of using the former as an efficient tool to eradicate poverty. Quoting Sendhil Mullainathan's thought-provoking condemnation of a system in which financial services are prioritized while aid services are discarded as secondary, Professor Blumenstock drew my attention to the fact that opting for a career in Data Science goes beyond the rigidity of numbers and statistics as it touches upon a humanitarian aspect that allows the scholar to carry out research that scrutinizes overlooked, so-called random details with the view of improving people's conditions and putting an end to their hardships. Haunted by a milestone event in which my country, Tunisia, played a leading role, namely, the Arab Spring, I immediately associated Blumenstock's ideas with the Tunisian context and reflected upon the prospects of applying it in various underprivileged marginalized regions of Tunisia where the pangs of regionalism have impeded the equal distribution of wealth, preventing thus the felicitous use of new technologies to collect data in peripheral areas where the infrastructure is either poor or nonexistent. This article aims thus at providing an outline delineating the different levels on which the Tunisian context provides a favorable terrain for the application of the aforementioned strategy as suggested by Professor Blumenstock. To start with, the latter's remark concerning the costly aspect of government-funded surveys in third world countries and the fact that they are often outdated is highly relevant as they are indeed expensive and relegated to the background compared to urgent priority issues that must be solved. In addition, corruption and lack of transparency are among the common factors marring policy-making in developing countries and undermining their credibility. Rebelling against totalitarianism, inequality, and poverty, Tunisians have succeeded in toppling a dictatorship but are still struggling, in a transition period, with the remnants of an old system which ways are deeply-rooted and hard to get rid of. Traditional surveys are therefore far from being reliable as they are distorted to serve various agendas. These biased statistics undermine put the reliability of post-revolution governments into question and further highlight the necessity of adopting innovative new methods that policy-makers cannot toy with. The nightlight data technology, satellite photographs taken at night that capture light emitted from Earth's surface (1), devised by researchers as an alternative to traditional surveys may prove highly rewarding in the Tunisian context as satellite photographs have often proven that wealthier areas shine brighter (4). Underprivileged regions in Tunisia often suffer from poor electricity supply or utter lack thereof which further confirms the suitability of this strategy in the Tunisian context in terms of measuring wealth. Dubbed as "Shadow Areas" by Tunisian media, these rural regions dwell indeed in the shadow of few urban areas that monopolize wealth on the detriment of their provincial agrarian counterparts. Denied the basic human rights that would secure a decent life, the inhabitants of these regions endure deprivation, destitution, and discrimination. Professor Blumenstock also mentioned another innovative technique opted for by researchers to overcome the obstacles posed by the absence of an adequate infrastructure in developing countries, namely, the use of "digital footprints" left by mobile phone logs. Regional patterns of mobile phone use correlate with the regional distribution of wealth (10).This strategy is highly promising in the Tunisian context wherein mobile phones are indeed ubiquitous. Opting for this technique will indeed enable the deduction of accurate inferences regarding the socio-economic status of users provided that operators commit to this project while respecting their clients' privacy. In a country where the limits between the public and the private are rather hazy, infringing upon the territory of people's private lives is a constant threat that needs to be averted in order to avoid the risk of falling prey to a new dictatorship in disguise. Dodging one-sided approaches, Blumenstock sheds light on the limitations of some of the previously mentioned techniques. Nightlight data is a limited technology as satellite photographs do not reflect the differences between dark areas as they are shown equally dark. Even though he suggests daytime imagery as a solution for this drawback, a suggestion that seems highly plausible and offers a potential solution to the problem, the Tunisian context requires first the identification of underprivileged areas regardless of the degree of deprivation. In fact, on the National Institute of Statistics' website (Tunisia's statistics agency), key indicators such as unemployment, poverty, income per household are not differentiated by regions (4). A scale of destitution is no longer functional in a country that witnessed a revolution aimed at eliminating all forms of inequality as all regions should benefit equally from governmental development plans and progress

schemes. Measuring the inequalities between regions which have already fallen prey to inequality is only ominous of further division and strife in a country that needs unity to thrive.

Poverty rate by place of residence

Unit : Pourcentage

Indicator	2000	2005	2010	2015
Poverty rate (in %)	25.4	23.1	20.5	15.2
Communal area	16.6	14.8	12.6	10.1
Non-communal areas	40.4	38.8	36	26

Source : National Institute of Statistics   **Updates:** 07/12/2017

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