Empowering illiterate voters

The right to vote is fundamental and universal, as stated in the Universal Declaration of Human Rights (Article 21). However, the different social realities of voters globally may interfere with the enforcement of this right. Lack of access to education, educational deprivation and illiteracy rates too often hinder the successful exercise of voting.

This article reviews research on how illiterate voters engage with technology, with particular focus on electronic voting in developing countries. It aims to discuss the outcomes of Smartmatic's surveys carried out among non-literate voters in Venezuela (during the last 14 years); the Philippines (since 2010) and similar studies about India and Brazil by academics and the election commissions. Its conclusion represents a twofold aspect. First, election technology ease voting processes and improve accessibility for illiterate citizens. Second, a vast majority (over 90%) of voters (literate and illiterate alike) feel satisfied with the ease of use of their voting machines.

The adult literacy rate, the population percent aged 15 years and over who can read and write and understand short simple statements, is currently of 86.1% for the world population, according to the World fact book and World Bank statistics. However, the UNESCO Institute for Statistics (UIS) affirms "despite the steady rise in literacy rates over the past 50 years, **there are still 758 million illiterate adults around the world, two-thirds of whom are women**."

While greater efforts will be needed to ensure that all youth and a substantial proportion of adults achieve literacy and numeracy by 2030 (Sustainable Development Goals target); world leaders, governments and citizens must cooperate to make sure illiterate voters are included and engaged in democratic processes.

Election technology and particularly the adoption of electronic voting machines have become an ally for election administrators to tackle illiterate voters' marginalization. A report from The Economist on the topic of illiterate voters, stated "electronic voting machines can help, but only Brazil, India, Venezuela and The Philippines use them nationwide."

Electronic voting has demonstrated to ease election processes and improve accessibility for illiterate voters in the aforementioned countries. "For example, Brazilian voters need only to type a candidate's number on a voting machine, and confirm their choice after seeing a photograph. The introduction of electronic voting equipment cut the share of spoilt votes from 23% to 11%."[1] Furthermore, according to a 2015 Princeton paper by Thomas Fujiwara, in Brazil "estimates indicate that electronic voting machines reduced residual voting[2] in state legislature elections by a

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[1] Illiterate voters making their mark. Teaching those who cannot read how to vote makes for cleaner, fairer elections, The Economist, Mumbai 2014

[2] "Brazilian paper ballots required citizens to write down their vote and involved only written instructions. This resulted in a substantial quantity of error-ridden and blank ballots being cast, generating a large number of **residual votes (those not assigned to a candidate and discarded from the tallying of results)**." Fujiwara, T. (2015). Voting technology, political responsiveness, and infant health: evidence from Brazil. *Econometrica*, *83*(2), 423-464.

magnitude larger than 10% of total turnout. Such effect implies that millions of citizens who would have their votes go uncounted when using a paper ballot were de facto enfranchised. The effects are larger in municipalities with higher illiteracy rates."

Smartmatic has been measuring and analyzing the ease of use of election technology among illiterate voters in **Venezuela** (for over a decade) and **the Philippines** (for at least four years)[3]. In both cases, **results showed that over 90% of members of the electorate who declared being unable to read and/or write found "easy" and "very easy" to vote with Smartmatic technology**. In the surveys' conclusions it was also found that levels of satisfaction with the usability of electronic voting (Venezuela) and counting machines (the Philippines) by illiterate voters were very similar to those from the broad general population.

Guaranteeing inclusion of illiterate voters
States, election commissions, political representatives and civil organizations have been working for decades to devise methods aimed at guaranteeing the protection of the right to vote for illiterate citizens. Currently, most international legal frameworks in democratic countries contemplate it. Moreover, special measures are taken to help every voter to cast his/her choice in secrecy.

The ACE Project explains how illiterate voters may be allowed to ask for assistance in the polling booth. "In some cases this may be the polling station chair and in others a friend/family member, or in some it is not specified." In the United States, for example, any voter who requires assistance to vote by reason of blindness, disability, or inability to read or write may be given assistance by a person of the voter's choice. (52 U.S. Code).

Together with anticipating measures for assisting voters, it is also vital to promote and publicly debate the use of colors, symbols and or photographs in electoral materials (including paper or digital ballots, Election Day items, campaigning tools, among others) so illiterate voters may have adequate information and recognize their choices without assistance. For instance, in India, where near 25% of voters are illiterate, people eligible to vote can identify their choices by party symbols. "**Simplifying voting procedures is the first step to ensuring that illiterates can cast informed and valid votes**."[4]

The Philippine and Venezuelan cases
Regardless of enormous geographical and socio-political differences between Venezuela (sixth largest country in South America) and the Philippines (fourth largest country in Southeast Asia), both developing countries have something in common: they have been using voting technology successfully for several years nationwide, provided by Smartmatic.

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[3] Quantitative national studies commissioned by Smartmatic in Venezuela (2004-2015) and in The Philippines (2013-2016), among adults (18 years old and above), who claim not to know how to read or write.
[4] Idem. The Economist, Mumbai 2014

The **adult literacy rate**[5] in [Venezuela][6] is 95.4% and the youth literacy rate (15 to 24 years old) is 97.73%; while in [the Philippines][7] those rates are somehow higher: adult literacy rate is 96.62% and youth literacy goes up to 98.22% ([UIS UNESCO, 2015]). Despite the achievements of both nations to improve literacy rates, still 1,028,960 Venezuelan adults (15 years and over) and 2,317,572 Filipinos adults remain illiterate.

On the other hand, Internet and mobile penetration in both countries give account of the relevance of new technologies to gain access to information for citizens and particularly voters in these nations. Noting that most of eligible voters are accustomed to use, get/send information and make decisions through technological devices, it is imperative to relate the use of technology, literacy rates and illiterate voters' satisfaction with electronic voting machines.

Venezuela's Internet users as of June 2016 was 61.5% of the population[8]. According to [eMarketer], 90% of users in the country have access to mobile phones; and the volume of data traffic has been increasing steadily, spurred by the popularity of social networks and the prevalence of smartphones. Smartphone penetration measured by the Pew Research Center survey in 2015 revealed that in Venezuela 45% of the population owns a smartphone.

In the Philippines, according to the [Digital 2017 global overview], the mobile user penetration is 75%, while 22% of the population owns a smartphone. The report remarks "the good news is that mobile internet connections have improved considerably in many developing economies, with The Philippines in particular enjoying an impressive jump in average mobile connection speeds. Faster mobile internet access may be one of the reasons why Filipinos spend more time on the internet than people in any of the other 29 countries we profile in-depth in the 2017 report."

Having the above numbers as background, it is important to relate them to election participation and the right to vote for illiterates in both countries portrayed. **The ease of use of election technology surveyed by Smartmatic among illiterate voters in both Venezuela and the Philippines** offer hopeful results.

In the Philippines, results of these comparative surveys for the 2013 Mid-Term Election and the 2016 General Election[9], showed:
- **Illiterate voters expressed high levels of satisfaction with the usability of the technology used during the voting process**. 89% (in 2013) and 91% (in 2016) of voters who claim not to know how to read or write described the voting process as "easy". The increase of 2% (from 2013 to 2016) suggests that this group of voters find it convenient to use optical scanners as they have become familiar with the technology.

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[5] The proportion of the **adult population aged 15 years and over** that is literate. The adult literacy rates presented here are collected by the UNESCO Institute for Statistics (UIS) on behalf of UNESCO with 2015 estimates based on people aged 15 or over who can read and write.
[6] Based on total population of Venezuela (UIS, 2015): 31,108,000, from which the adult population (aged 15 years and over) is: 22,365,000. http://uis.unesco.org/country/VE
[7] Based on total population of the Philippines (UIS, 2015): 100,699,000, from which the adult population (aged 15 years and over) is: 68,527,000. http://uis.unesco.org/country/ph
[8] http://www.internetworldstats.com/sa/ve.htm
[9] Quantitative national study commissioned by Smartmatic in The Philippines (2013-2016), among adults (18 years old and above), who claim not to know how to read or write.

- The **vast majority of illiterate voters believe election results to be credible**. Trust levels are fairly consistent across the country, regardless of location. 2016 showed a slight improvement from 2013 as the total number of voters who expressed to have big "great trust" in the results increased from 70% to 73%.
- In the general voters survey (including literate and illiterate)[10], 74% answered they have "great trust" in the elections results. Similarities with the illiterate voters' survey results are clear. 67% of total interviewed also stated they think "results are believable".
- **Ease of use results are also very similar to those expressed by illiterate voters. 93% (in 2016) found "easy" the voting process with Smartmatic technology**.
- General voters also expressed to be satisfied with electronic voting: 81% overall, from which 38% said they are "very satisfied" and 43% feel "somewhat satisfied".

In Venezuela, comparative results of surveys from 2004, 2006, 2012 and 2015[11] showed:
- **The voting process with Smartmatic electronic voting machines is acknowledged as "easy" and "very easy" for over 93% of illiterate voters**. In 2004, 86.6% of illiterate voters considered it easy, while by 2015 the percentage went up to 93.2%. After more than ten election processes, the voters expressed they are already familiar with the technology.
- Illiterate voters declared they prefer automated elections: 81% in 2004, and 95% in 2015, over manual voting (11% in 2004 and 3% in 2015).
- By 2015, 73% of illiterate voters considered the election technology used in Venezuela as "advanced and very modern."
- Similar results were found among general voters.[12] Regarding ease of voting, 91% of all voters surveyed stated they consider "easy" or "very easy" to cast the ballot with Smartmatic technology.
- 73.5% of general voters considered the election technology used in Venezuela as "advanced and very modern," while 64.7% of voters considered they have "great trust" in election results using Smartmatic technology.

Both literate and illiterate voters have expressed that exercising the right to vote with Smartmatic voting machines (touch screens and optical scans) and electronic ballots remains an easy practice. The inclusion of colors, symbols and photographs (adapted to each nation's legal framework) through all the stages of the voting process helps to guarantee the inclusion and autonomy of all voters.

Technology penetration among the illiterate population
Venezuela and The Philippines are just two examples of a global trend, where illiterate citizens can easily connect with the rest of society through technology. As for 2017, more than half of the world's population now uses Internet (web users grew by 10% in 2016, up 354 million compared to 2015), **almost two-thirds of the population now has a mobile phone and more than half uses a smartphone**.[13]

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[10] **Pulse Asia Research Inc.** Quantitative survey findings on automated elections. Study commissioned by Smartmatic, 2016.

[11] Quantitative national studies commissioned by Smartmatic in Venezuela (2004-2015), among adults (18 years old and above), who claim not to know how to read or write.

[12] **Datanalisis** Quantitative survey findings on automated elections. Study commissioned by Smartmatic, 2012.

[13] Digital in 2017 Global Overview report from We Are Social and Hootsuite

The [Digital in 2017 Global Overview report](#) by We Are Social, also mentions that more than half of the world's web traffic now comes from mobile phones.

- 3.77 billion global internet users in 2017, equaling almost 50% penetration[14];
- 4.92 billion global mobile users in 2017, equaling 66% penetration[15];
- 90% of the world's internet users go online via a mobile device.

On the other hand, as stated by [GSMA Intelligence](#), the mobile subscriber penetration in the developing world increased steadily over the last 5 years to 44% (from approximately 25%), with an additional 15-20% having access to a mobile despite not owning one. Given the widespread lack of fixed-line infrastructure and the inherent low level of PC ownership (under 10%), **this makes mobile the primary communication platform for the majority of the developing world population**. "**Despite high illiteracy rates, people in developing countries are adopting mobile technology at a high rate**."[16]

The illiterate have become more used to handle technology devices and successfully interact with the digital world. A Bentley's University study by [Mindy Maxwell](#), assures "whatever the reason for their illiteracy, illiterate people around the world are using mobile technology to gain access to information that was previously not available to them."

Numerous efforts are being made to tackle exclusion of illiterate people from digital tools. Projects covering tech innovations with socio-economic impact[17] in financial services, health, agriculture, digital identity, energy, water, sanitation, disaster resilience, gender equality and e-democracy are looking to transform millions of lives. **Some of these projects have demonstrated that "the immediacy provided by touch screen technology in conjunction with audio-visual feedback can enable illiterate people to engage with digital information."[18]**

Yet, [Mckinsey's insights](#) shows that approximately 28 percent of the offline population today is still illiterate. Reducing the digital divide is a pending task. The digital divide, understood as the gap between those who have ready access to computers and the Internet and can take advantage of the new ICT opportunities, and those who do not; might separate segments of society as well as whole nations. There are multiple arguments why closing these gaps is important. Improving democracy and political participation is only one of them, but it is closely related to offering more and better access to technology for the illiterate population.

Even though at a global level, the youth literacy rate (91% according to [UIS, 2015](#)) is 15 percentage points higher than the elderly one; and there has been a steady narrowing of the literacy gender gap; the engagement of illiterate voters in public participation and democratic endeavours remains as an important yet to achieve goal for election commissions, governments, and election technology providers.

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[14] Numbers also supported by the [UN International Telecommunications Union](#), [Internet World Stats](#), [Internet Live Stats](#).
[15] Numbers also supported by [GSMA](#), [Statista](#), [eMarketer](#) and [The International Data Corporation](#)
[16] [GSMA Digital Inclusion Report](#), 2014.
[17] Such as GSMA [Mobile for Development](#) projects, [Worldreader](#)'s projects, or those portrayed in the [Digital Diversity](#) series of National Geographic Voices.
[18] "[Mobile Learning: How Smartphones Help Illiterate Farmers in Rural India](#)" by Ken Banks

Greater changes have to be made in public education, digital learning, voters' education, mass media campaigns and political debates, in order to tackle illiteracy and its effects on elections. Smartmatic is opening the debate. We are listening and working on it.

Follow up blog posts for the company's blogs:
- https://elections.smartmatic.com/can-illiterate-voters-benefit-election-technology
- https://electionuniverse.com/2018/02/technology-a-boon-for-illiterate-voters-study-reveals/