DisMiss False Information: A Value Matter

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Abstract

The popularization of social media and the increasing consumption and dissemination of information online rise the concerns on the possible impacts of disinformation on a global scale. Although relevant progress to tackle disinformation online has been made recently, the problem seems to be still growing in space and complexity, affecting different aspects of the society, from personal relationships to entire democratic systems. In this position paper, we argue for the need to understand and approach disinformation and misinformation as a sociotechnical phenomena in cultures mediated by information and communication technology, in which both universal and specific values influence the way people experience the problem. A sociotechical perspective aware of the cultural influence can inform technical developments of user interfaces and algorithms, as well as the preparation of educational content in a more systemic and socially responsible way.

Keywords

Disinformation · Misinformation · Social media · Human-computer Interaction · Values · Culture

1 Disinformation and misinformation on social media

Mobile computing, social media and social application have connected people and made all sort of information available as never before. By boosting the access to information and social interactions, applications such as Facebook and WhatsApp have become key to foster digital literacy and education, including in countries where social and economic inequalities are still prominent. However, if on the one hand social media and social applications have contributed to democratize the access to information and communication technology (ICT), on the other hand they are favouring misinformation and disinformation spread, catalyzing social and cultural changes sometimes with hard and undesirable consequences.

Disinformation can be characterized as information intentionally created to trigger, mislead or generate decision errors, manipulate belief systems of individuals and deceive humans [1]. Online, disinformation is used for cognitive hacking [2], in social engineering and human-factors exploitation schemes, to persuade individuals to fall into targeted attacks like spear phishing and malware installation [3–4] or in the creation and dissemination of "false news" and hoaxes [5]. Misinformation, in turn, can be defined as misrepresented information that causes confusion and are not always intentionally created [1]. Despite the differences, both disinformation and misinformation are harmful and challenging. As a matter of simplification, in the remainder of this paper the term disinformation will refer to both.

The spread of disinformation against vaccines have reduced the results of public health programs to immunize citizens, and some diseases such as yellow fever, measles and poliomyelitis, which have been under control for decades, started infecting people again and causing deaths [10]. For example, in Brazil, India and Mexico, social applications have been used to disseminate vicious rumors that led to barbaric deaths of innocent victims [11–12] and to influence elections [12–13].

Although some progress has been made to stop disinformation spreading recently, the impact of disinformation seems to be reaching extreme levels, affecting relationships, freedom of expression in personal and professional domains, and threatening democratic systems. In this position paper, we argue that disciplinary approaches are not enough to deal with the complexity of disinformation spread and impact, and point out to the need for understanding and approaching disinformation as a sociotechnical phenomena in cultures mediated by information and communication technologies (ICTs). In ICT cultural contexts, both universal and specific values influence the way people perceive disinformation, react to it (or not), consume and spread it. Such a sociotechnical and cultural perspective can help us to deal with the problem in a systemic way, being able to design technical solutions and promote information literacy in a more socially responsible way.

2 Values and culture matter!

Different countries, regions or even social groups may have their own ways to establish communication, which includes the communication process meta-factors and how they perceive and appropriate received messages. Social media mediated communication is not apart from this sociocultural influence. Human values, social and economic conditions, educational level and different cultural traits seem to both affect and be affected by the way people use social applications to communicate with each other, produce, share and consume information, also online. Therefore, we argue that any initiative to tackle the disinformation problem must understand their consumption and dissemination as a sociotechnical phenomena in a society increasingly mediated by ICT. By a sociotechnical phenomena we mean that technical systems design, human processing capabilities, socioeconomic conditions, human values and cultural aspects must be understood and considered as intertwined to each other.

A recent social political event in Brazil related to formal education illustrates this view. Recently, Brazilian universities are suffering from funding cuts and political persecution. Political instability has caused the cuts of US$2.1 billion and the cancel of thousands masters and PhD scholarships. These policy measures were accompanied by a strong production movement and sharing of disinformation in social media, apparently with the aim of undermining social support to universities. Since Brazilian government announced funding cuts, a wave of disinformation against public universities has been flagged. According to "Aos Fatos", a monitoring tool developed at UFMG (Federal University of Minas Gerais), the sharing of nude student image in 350 WhatsApp groups monitored by the tool grew by at least 950% in 24 hours after the cuts. Most of the shared content used images and recordings to demoralize Brazilian universities and their students to support the cuts made by the government, showing naked students in random contexts, years and situations as if they were a current and common routine in universities [14–15]. In addition, title of dissertations and theses on gender and sexuality were shared without situating the content, using photos from other contexts and public, including other countries.

The same piece of information can be used to build perspectives of two opposite ideas that appeal to the subjectiveness of individual interpretation, triggering different perception and consequent behaviors on judging claims, as indicated in [7–9]. By omitting the original context in which the images were captured and by omitting or modifying details about the research, the content have a potential to deceive the reader by distorting or ignoring the intended meaning and purpose of images and pieces of research. This kind of action put in check the social media democratizing potential, promoting skepticism and outrage behaviors.

This example evidences three different dimensions that must be addressed when dealing with disinformation. The first dimension is related to people's

culture and values: the content explored nudity going against religious values, as they are very appealing to a considerable part of the Brazilian society. In Brazil, WhatsApp groups are popular among families to get in touch and share news about their lives, jokes, etc., and have become a source for disinformation as family members, usually the older and less educated, tend to disseminate any appealing content as if it was ultimately true [13]. When the information touch something valuable for people, they seem more prone to assume the information is true as if the information carry authority per se and is beyond justification [6].

The second dimension is related to *formal education and authority*. Public universities usually have very competitive and difficult admission process for students and are not able to cope with the demand of a country with more than 200 million people. So most Brazilians have never had the opportunity to experience the environment of a university. Therefore, universities are a distant reality for the majority of Brazilians, especially the least privileged one. Therefore, people are easily influenced to believe lots of public money is being wasted by universities inefficient researches and immoral events instead of being applied for high quality education. As there is a lack of trust in formal authorities to whom people may resort to get verified information from, and as people seem to give credibility to controversial content or to content that agrees with their previous beliefs, social platforms (e.g., WhatsApp) end up becoming a source of authority that certificates the information quality itself.

The third dimension is related to *technical issues* that range from software requirements to user interface and legal norms. WhatsApp is an example of a widespread application digitally including a considerable part of population in Brazil. The application can be used in simple and cheap smartphones and is accessible to most of people, even those still not very familiar with technology. It is very easy to disseminate any content through WhatsApp. However, the application does not support any sort of verification of the information quality, as the authorship of content or history of the content in the platform. For marketing purposes, mobile carriers usually do not restrict data consumption for social media applications such as WhatsApp and Facebook, but they do charge the access to other services online. Hence, people receive unlimited content in their social media groups having no means to check the content in another source, search for additional information, or even report the content to other organization than the application itself. The soil for spreading disinformation becomes fertile!

The three dimensions mentioned above: culture and values, formal and authority, and technical issues are contextually dependent. The cultural characteristics of a people, the values they share and the beliefs they hold heavily influence the way they understand and use social media. The socioeconomic conditions of people and the formal system that regulates and guides their life also play an important role. Finally, the technical system used by people, its interface, underlying structure and algorithms will favour certain behaviours while inhibiting others depending on the cultural context they are being used.

3 Towards a Research Agenda

Existing literature in Computer Science has focusing mainly on the technical dimension of the problem paying little attention to the cultural and formal ones. Although there is no arguments against the need for technical advancements to stop disinformation spreading, starting by focusing on technical aspects in isolation may not be the most effective way. Technical advancements must be made grounded on the knowledge we gather from understanding the sociocultural context where people live, from understanding their values, preferences, needs, social norms, behavioral patterns, beliefs and demands.

Before introducing technical innovations to social groups to tackle misinformation spreading, we suggest a sociocultural contextual analysis considering, for example, whether people have access to resources and knowledge to critically evaluate pieces of information, for example, whether there are external factors or socioeconomic conditions pressuring for disseminating certain positions and intentions. In particular, investigate whether and how values and culture influence people judgement of information quality and veracity [16], which are open questions on the literature. Only starting by understanding a context and the people living in it we can grasp the particularities of their problems and design good solutions for them.

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