

**Public communication, internet and citizenship:
the popularization of science on e-government portals**

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Abstract

Popularization of science through public communications can foster social inclusion and democratization of knowledge, towards more effective practices of public management, pointing to the need of taking the public opinion into account as a relevant input for policy-making. Among the accomplishments of public communications about science and technology policies in Brazil nowadays, we highlighted the e-government portals of the Brazilian states. This paper presents first results of research aimed at identifying the potential contribution of digital public communications on science and technology in Brazil to the strengthening of citizenship, considered in its dimension of exercising the right to information. Our goal is to assess the quality of online public communication as a source of information about the performance of state and federal policies on science and technology in relation to the fulfillment of demands for social and economic development. Partial results indicate the lack of information on social and environmental impacts of current policies. Data obtained in the analysis of 53 webpages of the Brazilian Southeast and South states indicate the presence of an average of 14% of the information which was considered necessary under normative assessment. This result suggested the need of improvement of the strategies deployed in online content management.

Introduction

Literature and research on which amount of information should be provided for ordinary citizens to assess and deliberate about science and technology (S&T) policies often point to the role played by lay knowledge and outside information, gathered by ordinary citizens from the media and various sources on the internet. Horlick-Jones, Rowe & Walls (2007: 260) applied a specific concept of translation quality in analyzing the GM Nation debates which took place in the United Kingdom in 2003; for them, translation quality may occur when lay people go through their own knowledge to reframe technical or specialized knowledge, in order to make sense of the wider contexts against which public policies should be decided: “lay knowledge can make possible an enhanced utilization of expert knowledge to address specific problem situations”.

Anderson, Delborne & Kleinman (2013) assert that research on the sources of outside information used by citizens in deliberative forums such as consensus conferences is little. Although “most of the information exchanged during a consensus conference is expert-driven”, according to Anderson, Delborne & Kleinman (2013: 957), “citizens are encouraged to draw upon their own experiences and basic values to participate in discussions with other citizens”, which makes the quality of outside information an open question. “Drawing upon one’s experiences differs significantly from seeking relevant knowledge from information sources outside the boundaries of the deliberation. Therefore, outside information seeking remains an understudied topic of investigation (...)” (Anderson, Delborne & Kleinman, 2013: 958).

Policy evaluation as a study field has been attracting growing interest and increasing amount of evidence for at least three decades (Weiss, 1998; Henry, 2001). Currently it matches the demand for innovation and sustainability, which makes research even more difficult. “While they generate knowledge and are expected to transmit it to officials and citizens as well as organizations constituting the public sphere, evaluations of RTDI (*research, technological development and innovation*) policies remain complex and require technical tools”, according to Teirlinck et al (2013: 368-369); despite the complexity, the policy assessment results still matter to ordinary citizens: “information has been recognized as having a direct effect on decisions. The object of the evaluation and the familiar-

ity and possibility for the target (either policy-makers or broader public) to understand it is a key element”.

Public communications have been carrying the duty, brought by right to information laws, of extending the public sphere, providing spaces for debate and sustaining public engagement on science and technology policy-making. Public communications should aim at bridging the gap between citizens and public services, comprising processes of “dialogue and debate between state, government and society, where issues of collective interest and plural interests are discussed and negotiated” (Matos, 2009, p. 101).

Government communications should seek to enable a variety of social actors in the public sphere to discuss and formulate proposals and policies which benefit the whole society. In this context, social scientists have been noting the convergence between the goals of public communications and political communications, since “the themes, issues and concerns involving issues of power in society must involve the mobilization, engagement and participation of all actors in all social stages of decision-making processes and implementation” (Matos, 2006, p. 45).

Methodology

In order to investigate how the electronic portals governments of the Brazilian states framed public policies on science and technology, our methodology of content analysis (Stemler, 2001; Jasanoff, 2005) was based on five criteria and 20 corresponding categories, which we defined according with the literature on policy evaluation: background and diagnosis (legal information and social, economic, political and environmental contexts); objectives and goals (efficiency, partnerships and agreements, objectives, goals, and access); targets (publics, dissemination, efficacy, effectiveness, and cost/effectiveness); social impacts (well-being, equality, and citizen satisfaction); and environmental impacts (prevention of risks and management of resources).

Data were collected in February 2014. The comparison between an ideal framework, in which all 20 categories should be fulfilled, and the amount of information actually found on the web portals allowed qualitative assessment of the achievements of digital public communication in Brazil. This analysis generated an index we called Quality Index Information (QII), obtained by each of the states analyzed. This index indicates

the proportion of information found on web portals, measured against that ideal framework.

Results and discussion

Figure 1 shows the proportion of web pages of Brazilian government portals containing information on science and technology policies by category of analysis.

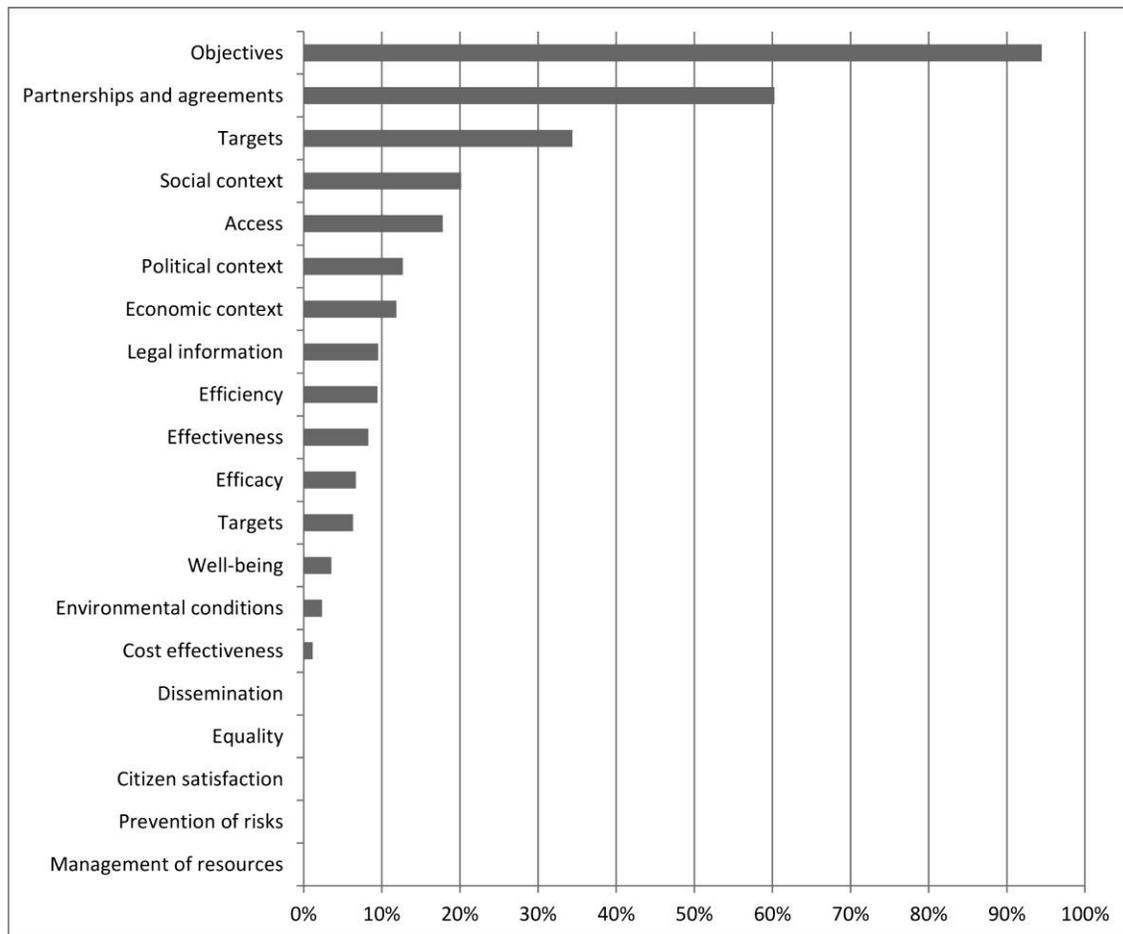


Figure 1. Proportion of web pages of Brazilian government portals containing information on science and technology policies by category of analysis

Only two out of 20 categories (objectives, and partnerships and agreements) were fulfilled in more than 50% of web pages analyzed. Five categories were not fulfilled in any of the 53 web pages.

As these web portals do not report on important issues such as targets, equality, citizen satisfaction and prevention of risks, they tend to preclude the depiction of public policies as a result of an ongoing process of implementation, monitoring and evaluation.

Figure 2 shows the Quality Index Information obtained by government web portals of Brazilian Southeast and South states on science and technology policies.

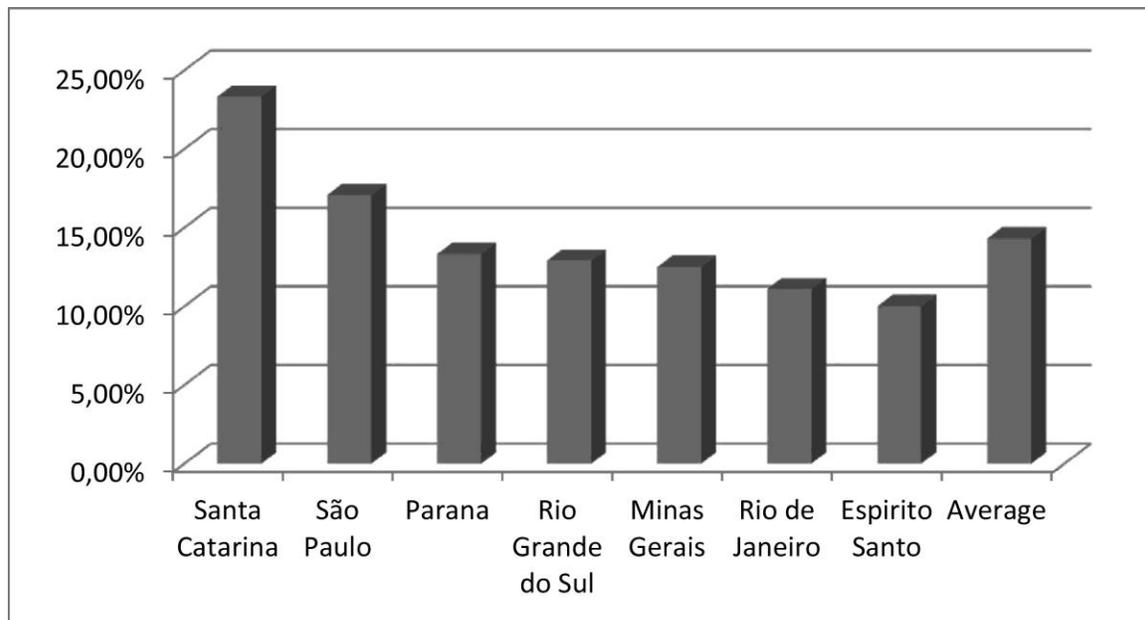


Figure 2. Quality Index Information obtained by government web portals of Brazilian Southeast and South states on science and technology policies

In average, the 53 web pages analyzed contain only 14% of information which was considered necessary under normative assessment. South states of Santa Catarina (23%) and Sao Paulo (17%) showed performance above the average. This result could be explained by the prominence of those states in terms of their relative importance in the national output in research and development, as it is indicated by studies (Barros, 2000).

Conclusion

The analysis of the government web portals of the Brazilian Southeast and South states indicates that the information currently available on science and technology policies tends to be superficial and insufficient, when evaluated against normative standards given by the literature on policy assessment. This suggests that government communica-

tions have not been able to strengthen the role of citizens as active actors and monitors regarding their right of assessing public investment on science and technology.

The relative lack of information could be associated with a political culture of weak civic engagement and low interest in scrutinizing public policies, particularly in the field of science and technology policies, still perceived as being out of reach by ordinary citizens. Without the understanding of public policies as a result of choices and preferences which can be translated into frames open to general assessment, citizens tend to remain apathetic about politics.

According to a Unesco report (2003), interaction and collaboration between all social, political and economic actors involved in the production of science and technology should be widely promoted. This is necessary not only to support democratic spaces for public scrutiny of the impacts of S&T on society, but also to enable the understanding of how society shapes S&T policies and regulations. From those interactions, which can be fostered by science communication on government web portals, public spaces for democratic formulation of S&T strategies and policies are expected to thrive, improving governance and strengthening citizenship.

Acknowledgements

We wish to thank São Paulo Research Foundation (FAPESP) for the funding provided (Grant 2013/01819-3).

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