

Mapping users' perspectives and outlining social impacts from digitalization of terrestrial TV in Brazil [☆]

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Abstract

The digital divide has numerous aspects and is as dynamic as the technology industry is able to develop and disseminate new ICTs and services, thus increasing or creating new gaps among the more advanced societies and those still hampered by social and economic problems. In developing countries the diffusion of new technologies is often hindered by factors such as insufficient income, deficient infrastructure, cultural barriers and lack of information. Brazil is no exception to that rule, and all information and communication technologies (ICT) diffusion surveys undertaken to date confirm the trend that digital exclusion is following the dreadful pattern of social exclusion. The income disparities in Brazil are very severe and, also due to the country's huge territory and complex geographical and cultural formations, a technological innovation is seldom capable of reaching the population as a whole and benefiting the entire society. One outstanding exception is the terrestrial (free-to-air) TV, which, after about 50 years since its introduction, has reached an adoption rate of more than 90%, and now covers the whole country, with enormous sociocultural consequences. In view of this, and with the objective of addressing the problem of digital exclusion, the Brazilian Government has devised the deployment of digital terrestrial television—DTT—as a singular opportunity to reduce the digital divide and to promote the access of the population to interactive and citizenship services through an already familiar interface, thus avoiding or reducing cultural constraints and illiteracy barriers usually posed by other ICTs. This study undertakes a comprehensive discussion of that policy and its effects, and provides some data to support the strategy: the results of two interrelated studies; one that maps TV users' characteristics and expectations regarding digital TV, and another that models the social network effects on the diffusion of DTT into Brazilian society and the users' behavior when facing the new media, namely, an agent-based modeling and simulation—ABMS. The model uses the mapping information as input to test some hypothetical scenarios in the diffusion process, so as to identify factors that affect the overall diffusion process. All these studies are in the scope of a broader and deeper methodology for ex ante analysis.

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1. Introduction

Society is moving towards a knowledge-based age. Although this does not imply that knowledge is an unprecedented element for human civilization nor that only now it is being efficiently used or constructed, to some extent this indicates a new sociocultural perspective. Undeniably, individuals have new information needs and demands for more and more communication services in their everyday life. As a consequence, they increasingly use new ICTs and develop new kinds of social relations or cognitive skills.

Taking a broader view, it is possible to note that ICTs are changing industry's paradigm and affecting the political and socioeconomic pillars of the society. The harmonization between economic development and social growth¹ is a key issue for economies in general and of paramount importance for emerging and developing countries.

Besides these paradigm shifts, a significant part of the new social arrangements is also due to individuals' possibility to participate in the content production, by choosing or even shaping the content to be consumed. With the advent of digital TV, interactivity functions may be implemented in such a manner that new services can be provided and new business can be generated. For developing countries, it may be a promising alternative for bridging the digital divide, mainly in those countries where the free-to-air TV platform has high capillarity and a loyal audience. Nevertheless, [Santaella \(2003\)](#) claims that the psychological and social impacts due to the convergence of several media into a single digital environment should be consistently addressed in order to reveal how technology can effectively be appropriated to attend societal needs.

In Brazil, the terrestrial (mainly free-to-air) TV plays a very special role in terms of infotainment and of national identity construction,² notably by means of sports events and the Latin-American format for soap operas (named TV novels), since it contributes to create a sense of belonging in the population of the country or of a given region. Currently, the terrestrial TV is present in more than 90% of Brazilian households. Additionally, the same percentage of surveyed individuals reported that TV is their main information source.³ In face of this vast service coverage, the Brazilian Government identified digital terrestrial TV (DTT) as a valuable means for promoting social inclusion in Brazil. Hence, the decree no. 4901 of November 2003 established the Brazilian Digital Television System Project (SBTVD), with the intent of analyzing and proposing a DTT exploration and deployment model that best fits the Brazilian socioeconomic particularities.

The analytical approach supporting this decision is essentially based on a holistic vision of the multiple factors that should be taken into account for providing an ex ante perspective of the potential impacts associated to such a disruptive innovation. As described in [Holanda et al. \(2005\)](#), the methodology adopted for putting it into practice is based on a comprehensive analysis of the social, economic, technological and regulatory aspects that support a decision of this complex nature. Some particular activities included in this analysis process are reserved to map the individuals' (users')⁴ demand and perspective regarding digital TV and its benefits, specifically in terms of new services and perceived attributes, and to analyze the social impacts associated to the services that will come into existence with DTT deployment.

This mapping is based on market surveys and is composed of two sets of information: one depicts the current television reception, regarding technical, cultural and cognitive aspects; the other focuses on demand and use expectations for digital TV. As such, it is important to remark that the acquisition of a durable consumer good and its appropriation are tightly coupled to the consumption of newly offered programs and services. Hence, the programming issues are hereafter addressed in order to reveal their influence on the technology acceptance and consequently on its diffusion process. By means of this mapping and subsequent analyses, it is possible to model the users' behavior and to stress the key factors in terms of adhesion to the new tech-

¹ Indeed, the separation of the social and economic dimensions is unreal, in such a way that one can pose the tautological question: what does come first: social or economic growth? But this reductionist separation is necessary to overcome our mental and analytical synthesis limitation and to allow a deeper and even broader investigation on the matter, provided the holistic perspective is not disregarded. Mainly in developing countries, the political dimension is, a fortiori, necessary to foster such harmonization.

² In a sense, this point of view is in accordance with the post-modern notion that identities are not stationary: rather they are continuously changing and follow the *zeitgeist*.

³ Source: CPqD, 2004.

⁴ Individuals of a society are hereafter designated as users, since this term denotes an active attitude facing the content reception, in opposition to the passivity normally associated to the meaning of spectator or viewer.

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