DIGITAL INCLUSION AND SOCIAL PERSPECTIVE – CRITICAL DISCUSSION BASED ON A SYSTEMATIC REVIEW OF THE LITERATURE

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ABSTRACT

Digital inclusion is a process undertaken by a government or public/private entity to bring information and communication technologies (ICTs) closer to those who do not yet have access to, or knowledge of these tools. Although the social nature of digital inclusion is acknowledged, as is the necessity of community involvement in management (creation, execution and evaluation) of the associated programs and projects, the users are not taken into account. Similarly, although in the bibliographical material emphasizes the need for integral quantitative and qualitative studies, the numerical approach to the phenomenon has been repeated, especially those of demographic character. The document concludes suggesting complex approaches to digital inclusion, so as to keep in mind the relationships between diverse aspects of the phenomenon, including the social ones, and their emergent and inhibited properties.

KEYWORDS

Digital inclusión; digital divide, social perspective, complexity.

1. INTRODUCTION

Digital inclusion has been defined as "*both inclusive ICT and the use of ICT to achieve broader social inclusion objectives and, thus, it is about both inclusive technological innovation and innovative ways to deliver inclusive policies by using ICT*" (Weerakkdy, Dwivedi, El-Haddadeh, & Almuwil, 2012). The digital inclusion processes are initiated with the goal of closing what is called the digital divide. Said divide is commonly defined as the difference between those who do and do not have access to ICTs (MinTIC, 2014).

Based on the literature reviewed, it appears that the majority of the approaches are quantitative, especially those of demographic character (gender, age, level of education, income, etc.), often associated with the access divide. The digital divide is seen as an important, new dimension in social inequality. As such, it has been investigated from the educational perspective (knowledge and skills for ICT usage) (Brandtzaeg, Heim, & Karahasanovic, 2011). That said, qualitative approaches to digital inclusion are suggested.

Digital inclusion may be described as a complex, multidimensional phenomenon, as it considers technical, financial, normative, social, cultural, moral, and ecological factors (Sepúlveda, 2014). A knowledge gap has been identified, principally in regards to the social aspect, as the participation of those communities "benefitted" by digital inclusion programs/projects is not considered.

The present document performs a critical analysis of the results encountered in the following bibliographical tools: Scopus, Web of Science, and Science direct. For the review, it was established a search equation based on components of interest, through this search were obtained 208 papers, these papers were classified according to relevance, obtaining a total of 39 papers rated as "very important"; these articles have all the components set forth in equation search. This information will form part of project for the doctoral dissertation entitled "*Perspectiva social del fenómeno de la inclusión digital: una aproximación desde la complejidad.*"

2. CRITICAL DISCUSSION

Certain similarly oriented investigations, such as the formulation and application of public policy as it relates to digital inclusion have focused, in reduced form, on the access divide (making ICTs available to the less fortunate). As Brandzaeg says, "*existing research on the digital divide has mostly focused on the first divide*" (Brandtzaeg et al., 2011). The focus of the aforementioned analysis is the adoption of technological instruments and those demographic, social and economic factors which impede, make possible, or impact the process. Other studies show how, in rapidly developing countries or emerging economies, there are access difficulties and inequality in ICT use.

Two other varieties of digital divides have been identified: "*primary digital divide or gap of use, which focuses on those who have access but are not users; and the secondary digital divide or gap in quality of use, which looks at the differences between the participation of those with access and users*" (Gonzáles Zabala & Sánchez Torres, 2013; Harambam, Aupers, & Houtman, 2013).

Digital inclusion has multiple approaches for researchers as reflected in Figure 1, in which the different interests on the subject are classified.

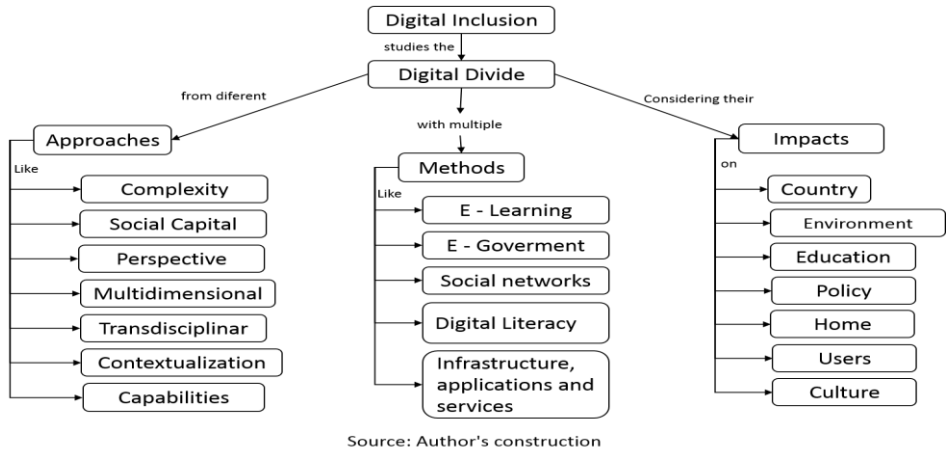

Figure 1. General diagram digital inclusion - reflecting the state of the art

Some authors include the type of socio-spatial inequality in their publications (quantitative evaluation), since the digital divide is a reflection of the social divide. Others emphasize the importance of the construction of a general model for digital inclusion, which can then be applied to different contexts, as well as individual cases (Hall, Atkins, & Fraser, 2014; Lichy, 2011); This is of particular importance, as those who intervene in the digital inclusion phenomenon have a wide range of motivations, barriers and necessities for learning to use ICTs (Kuo, Tseng, Lin, & Tang, 2013).

It is suggested that future studies on this topic relate to social aspects of the technology users, and take social behavior and the community's culture into consideration (Anastasios, Koutsouris, & Konstadinos, 2010; Bhatt & De Roock, 2013; Brandtzaeg et al., 2011; Fuentes-Bautista, 2014; Goh, 2013; Koutsogiannis, 2007; Rice & Katz, 2008; Tierney, Bond, & Bresler, 2006; Zhao, 2009). Different studies focus of evaluation of the social effects that digital inclusion projects have, although they do not evaluate community participation in the management of these processes.

In general terms, it is suggested "*that developing policies to address the digital divide without addressing the wider inequalities between groups and places will only exacerbate the digital divide further*" (Gilbert, 2010). Schwanen et al. (2014) advocate the importance of those contributions taken from quantitative studies, and mention that these must be complemented with qualitative studies that back the definition of programs and projects designed for the specific needs of the social groups involved (Schwanen, Kwan, & Ren, 2014).

There are a number of approaches which characterize digital inclusion as a complex phenomenon, given that "*the digital divide does not exist in a vacuum*" (Tien & Fu, 2008), but rather in context that must be understood, in order to improve the understanding thereof. Some authors emphasize the inclusion of community perspectives in the formulation, execution and evaluation processes of these programs and

projects: "*perception that younger people have more interest in opportunities to learn and explore new technology and that access still is an important variable*" (Brandtzaeg et al., 2011). Other authors call attention to the important role it may play in the adoption process, and in the sustainable use of digital mediums (Gonzales, 2008), and a participative approach to municipal telecommunications and information policy (Fuentes-Bautista, 2014).

Approximately 95% of revised articles mention that "*digital divide into a complex, dynamic, and multi-dimensional phenomenon*" (Meneses, Fàbregues, Rodríguez-Gómez, & Ion, 2012) as well as multilayer, given that it is understood based on the amount of access and use of internet that individuals are afforded, what products and tools they use to meet certain objectives, and what benefits they reap with access to and use of these technological tools (Chen, 2013).

3. FINDINGS SUGGEST

There is a strong tendency to conceptualize the digital divide as a complex phenomenon which transcends the basic, vague information regarding access problems (Ferro, Helbig, & Gil-Garcia, 2011). The models to approach the study of the digital divide are complex. However, investigation has centered on the comprehension of demographic and socioeconomic differences between those who adopt these technologies, and those who have yet to do so, or have not yet had the opportunity (Ferro et al., 2011).

Although they recognize and explain that digital inclusion is complex and multidimensional, the results from the aforementioned investigations have provided only a general overview, focused exclusively on demographic aspects (Bhatt & De Roock, 2013; Cox et al., 2013; Gilbert, 2010; Goh, 2013; Kissling et al., 2012; Knox & Bayne, 2013; Koutsogiannis, 2007; Lichy, 2011; Meneses et al., 2012; Mwitondi & Bugrien, 2012; Olorunnisola & Martin, 2013; Tien & Fu, 2008; Tierney et al., 2006).

4. CONCLUSION & SUGGESTIONS

The various digital inclusion investigation proposals from quantitative and qualitative perspectives are, in the end, not implemented. The documentation makes clear that the evaluation of the phenomenon has been predominantly numerical, and so, is reduced.

Although the complexity of the digital inclusion phenomenon is mentioned, the consideration of context and those who benefit only results in its classification as an environmental phenomenon. The environmental factor does not refer simply to the physical environment, but also intangible aspects (social, cultural, political, economical, and ethical).

Studies which emphasize the social aspects of digital inclusion, which evaluate qualitatively, and which have the participant communities in mind, and involve their interests and unique qualities (not only demographic) are suggested. It is necessary to involve beneficiaries in the management process (formulation, execution and evaluation) of digital inclusion programs and projects. This suggestion responds to the complexity of the phenomenon.

This critical review of literature on the topic of digital inclusion has been based on the theories of complex thought which consider relationships between diverse aspects of the phenomenon, as well as its emergent and inhibited properties. Complex thought proposes that "*the study of complex processes demands complex multi, inter and transdisciplinary investigations (Morin, 1984). Those who push boundaries may be in higher demand than specialists, but the paradigm disfavors this process. This is a real tension that is present in scientific education*" (Núñez Jover, 1999).

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