Digital Divides Revisited: What Is New about Divides and Their Research?

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Abstract

This article critically reviews well-established and recent trends in digital divides literature and research, highlighting new elements of divides and the related research and making recommendations about future research. First, it disentangles some aspects of the puzzling nature and ongoing importance of digital divides. It then discusses how the concept of digital divides has evolved over the last two decades and how research literature has examined it on the basis of different attempts at contextualisation. The article brings together theoretical and empirical insights and suggests that digital divides be revisited so as to illustrate the need for less linear and more properly contextualised approaches to the concept and phenomenon of digital divides where technology, society and politics will be jointly taken into consideration to explain divides. It specifically proposes that digital divides and the research into these be revisited so as to emphasise the critical role of socio-cultural and decision-making dynamics in structuring the adoption of ICT in both qualitative and quantitative terms. Thus, it argues that the web of cultural traits in a society, with its own gaps and disparities, as well as policy and regulation dynamics, are in a constant dialogue with technology, together influencing digital divides and entailing implications for other forms of division in society.

Keywords: Digital divides, inclusion, society, culture, policy, regulation

Introduction

A worldwide debate has taken place in the last two decades about the digital divide and its constituents, as well as its dimensions and variations in the different contexts in which it emerges. In this article, I refer to ‘digital divides’ throughout the text, since I argue that many different aspects and forms of divides co-exist today, leading the concept to be defined and approached in various ways by contemporary research: ‘this is, in fact, a whole series of interlocking “divides” – the gaps that

separate segments of society as well as whole nations into those who are able to take advantage of the new ICT opportunities and those who are not' (OECD, 2000: 3).

Regardless of the technological advances achieved in the information society, inequalities in the adoption and integration of Information and Communication Technologies (ICTs) continue to frame and give new nuances to the concept of digital divides. Although the conventional divisions of ICT access and usage seem to have shrunk at the national and international levels and for particular population groups, digital divides are still in place and present new, more qualitative nuances (Tsatsou, et al., 2009). The continuous presence of digital divides over the past two decades and the new challenges emerging from rapid technological development feed and inspire research and new directions for examination by scholars and other interested parties in the field.

This article aims to critically review well-established and recent trends in digital divides literature and research, examining what is new about divides and related research and making recommendations about future research. The key question the article attempts to answer is whether and the extent to which research on digital divides over the last two decades has managed to capture the scope and role of interactions between technology, society and politics when examining the nature and especially the importance of digital divides. To this end, this article discusses how digital divides have evolved in the last two decades and how research literature has approached their nature, scope and significance on the basis of different attempts at contextualisation. On the one hand, it appraises the departure of conventional binary accounts and those restricted to access and usage factors of divides and the introduction of the term 'inclusion' rather than 'exclusion'. On the other hand, it suggests that digital divides be revisited in order to better contextualise them and that less linear explanations of the divides phenomenon should be developed. At the core of this suggestion the article builds the argument that the web of cultural traits in a society, with its own gaps and disparities, as well as policy and regulation dynamics, are in a constant dialogue with technology, together influencing digital divides and holding implications for other forms of division in society.

Why digital divides? Their puzzling nature and ongoing importance

The question of why digital divides should be researched has been and remains a key question and is closely associated with the question of how they are contextualised. This can be answered by looking at how digital divides are defined and conceptually approached, as well as at literature concerning the continuing importance of the divides phenomenon for social exclusion or inclusion.

Defining digital divides: moving beyond binary accounts of divides?

The 'digital divide' concept appeared in the 1990s as an umbrella concept and is conventionally understood in terms of access to and usage of digital technologies: 'unequal access to technologies or digital exclusion at an international as well as at a local level' (Cammaerts and Audenhove, 2003: 7). In diffusion terms, Mansell (2002: 407) defines the digital divide as 'the uneven spread of the new media', while some discuss it without looking at any specific ICT technology (Frissen, 2003; Selwyn, 2004a).

Scholarly works have conventionally defined digital divides as a dichotomy between the 'information haves' and 'information have-nots' (Wresch, 1996) or, in economic terms, the 'information poor' and the 'information rich'. Such conventional accounts have lacked 'sociological sophistication' (Webster, 1995: 97), as they place ICT-related divides out of context and close their eyes to sociologically rooted individual and systemic indicators that should be considered when defining divides. In this sense, well-known works (Rogers, 2001, 1995) have espoused narrow and quantitative accounts of divides, overlooking qualities of technology diffusion and the contexts where diffusion takes place. Thus, the dominant rhetoric on the phenomenon has looked at the split between digital technology use and non-use, as well as economic and easily quantifiable drivers of divides such as socio-demographics. Regarding the sources of digital divides in particular, researchers' attention has conventionally been drawn to socio-economic and demographic differences as the main source of divisions between 'haves' and 'have-nots', understanding the phenomenon, for instance, as 'the differential access to and use of the internet according to gender, income, race, and location' (Rice, 2002: 106).

However, empirical surveys, commentaries on empirical findings and other scholarly works (Hoffman et al. 2001; Kirkup, 2001; NTIA, 2001a, 2001b, 2000; Walsh et al. 2001; Walton, 1999; Wilhelm, 2001) have reported contrasting findings with regard to existing inequalities and the role of demographics. Different socio-demographics seem to matter to varying degrees for digital inequalities that exist in different socio-cultural, economic, political and time contexts. Others (Vehovar et al., 2006) argue that no single and universally accepted indicator can be espoused when researching digital divides and that, as discussed later in more detail, in the last few years a growing volume of literature and research has criticised the dichotomies and quantifications which have prevailed in mainstream digital divides literature.

Technological evolution and related developments, changes in collective and individual living, the maturation of research in the field and other parameters seem to have contributed to today's growing emphasis on the quality and levels of technology use as well as on the attitudes to and usage of digital

technologies, thus going beyond the numbers of people who access and use such technologies. As a result, recent work in the field shifts conceptualisation of the phenomenon towards the various qualities of inclusion and exclusion, noting the evolving and puzzling nature of digital divides. While this progression is to be credited to the work of scholars and practitioners, it can be explained on the grounds of how technology and societies' adoption of digital technologies are evolving over time.

With digital divides increasingly moving beyond the issues of access to and usage of technology, the question of their contextualisation comes to the fore. The discussion that follows brings up literature on the importance of digital divides. This discussion paves the way for an examination of research developments and gaps, particularly with respect to the contextualisation of divides, thus allowing support for the argument that digital divides are to be viewed as evolving and closely dependent on the socio-cultural and decision-making context in which technology is designed, developed and consumed.

Digital divides and their continuing importance

Accounts of why we should look at digital divides view this phenomenon 'as a practical embodiment of the wider theme of social inclusion' (Selwyn, 2004a: 343). The literature tends to connect the concept and phenomenon of digital divides to 'social exclusion and deprivation' (Haddon, 2000), arguing that ICT capital and people's integration of ICTs into their lives are associated with 'community involvement and social capital' (Kavanaugh and Patterson, 2001). Thus, scholars argue about the overall importance of the phenomenon not only for the market and the economy,ⁱ but also for social inequalities which can either be increased due to digital gaps (van Dijk, 1999: 235) or decreased due to the curative potential of new media (Mansell, 2002: 407).

The literature has persistently supported normative and linear accounts of ICTs as creators of a 'more harmonious and egalitarian society' (Cammaerts and Audenhove, 2003: 8). This is the case regardless of the fact that scholars acknowledge in general that digital divides emerge in complex realities (Haddon, 2004) and that, in these realities, people's needs, desires, skills, capacities and social roles matter (Mansell and Steinmueller, 2000: 37) for the extent to which digital divisions emerge and entail implications for people's social positioning and citizenship (Couldry, 2003). The discussion of the role of digital divides not only in social exclusion, but also and consequently in citizenship and deliberative democracy, is also prominent in literature aiming to shed light on the relationship between social exclusion, the degree of digital opportunities or restrictions that people are subject to and people's roles as citizens or as contributors to democratic regimes. For instance, by appropriating Sen's capability approach (1992, 1999), Couldry (2007) elaborates the idea that people's capabilities

are important for communications, emphasising the implications for communicative entitlements and democracy. Also, within the spirit of Sen's 'capabilities' Mansell (2002) suggests new media configurations and a 'rights-based approach to new media policy' (ibid: 409) to empower ordinary people, providing them with an active role in communications based on their capabilities and beyond the mere consumption of content. Thus, these discussions extend the scope of thinking beyond digital and social exclusion/inclusion and point to the importance of digital divides for and their linkages to politics.

Such discourses about digital exclusion and citizenship can be appraised for paving the way for a better understanding not just of the importance of digital divides but also of the nexus of relationships between ordinary people (or citizens) and decision-makers regarding digital divides. People's engagement with digital technologies relates to technology design, which needs to be flexible, as well as to policy support for social rights and participation (Mansell and Steinmueller, 2000: 40-52). In this spirit, the role of politics is embraced by the debate between defenders and opponents of the welfare state model, which obtains new interest as social rights and services go hand-in-hand with communication issues: '...access to and competence in the use of the means of communication arguably define a relationship that contributes substantially to defining the quality of the experience of citizenship in the modern world' (Calabrese and Burgelman, 1999: 8). According to such a position, communications influence people's inclusion and participation, with the latter depending on social, political and economic provisions, further challenging policy and regulation processes (Henten, 1999: 85-6).

On the other hand, such arguments do not escape the pitfall of a linear and incomplete contextualisation of the concept and phenomenon of digital divides. This is because they view policy and regulatory regimes as important for digital divides from a problem-solving perspective, while lacking an account of how politics might exacerbate divides and how in turn they might interact with socio-cultural forces of divides. Scholars continue to believe that politics can alleviate digital divides and thus strengthen social inclusion and people's sense of citizenship. However, what remains untouched is how socio-cultural and political elements of the broader system can interact, entailing ambivalent and varying results not only for the extent of digital divisions but also for the effects of those divisions on social inclusion and participatory democracy.

In concluding this section, I argue that, by departing from binary conceptualisations of digital divides, considering other more qualitative aspects of divides, the progress of the literature still cannot hide the weakness of approaches which view ICTs and their adoption as determining social exclusion parameters and call on politics to provide the solutions required for the disappearance of digital gaps.

Linear and normatively grounded approaches to the digital divides concept still prevail in the literature and pose the question of how such divides are contextualised. The next section makes this point more evident by exploring the history of and the developments and gaps in research when it attempts, in examining the nature and importance of digital divides, to capture the extent and role of interactions between technology, society and politics.

Digital divides research: history, developments and gaps revisited

This section discusses the gaps and advances in digital divides research. On the one hand, it assesses research developments, in particular concerning the discussion of ‘exclusion’ being replaced by that of ‘inclusion’ and the significance of this change. On the other hand, it accounts for persistent research gaps concerning the over-emphasis on economic and technological factors and the lack of attention to socio-cultural, policy and regulatory parameters and their joint role in digital divides.

Digital divides research: from ‘exclusion’ to ‘inclusion’?

From a historical perspective, digital divides research has been influenced by the diffusion theory that emerged in the 1950s and 1960s. Its outset can be considered as being when initial research on digital divides emerged in the 1990s under the influence of diffusion theory works in the field such as those by Rogers (1995). As commentaries have shown (Bradbrook and Fisher, 2004; Selwyn 2003, 2004a, 2004b; Warschauer, 2003), research proponents of diffusion theory present a limited conceptualisation of digital divides as they argue that the acquisition of and access to computers and Internet equipment is a fundamental criterion for overcoming divides. From 2000 onwards, scholars such as Norris (2001) have articulated a more popular research thesis which maintains that access to ICTs and the provision of the required equipment do not eliminate divisions and exclusion from digital opportunities. Such a thesis presents a more complex picture of digital divides, discarding the dichotomy between haves and have-nots and taking the quality and efficiency of technology use into account. Thus, research works on how increased access might maintain or exacerbate existing divides have grown in number. Also, different degrees and qualitative aspects of divides concerning material, economic, social, cultural and technical forces that mediate access to and use of technologies such as the Internet have become objects of research (Livingstone, 2002).

The research is increasingly opening up to include more forces and allowing more middle-way positions, suggesting a ‘thicker description of the various shades of information and telecommunications inequalities’ (Wilhelm, 2000: 69-70). For instance, Selwyn (2004a: 347) argues

that access does not determine the existence of divides as people might often enjoy a different quality or amount of digital content or might have at their disposal unequal resources to fully take advantage of available digital technologies and services, thus giving form to other types of gaps and divisions. In terms of resources in particular, social, cultural and educational parameters influence an individual's capability in using digital technologies, attributing more nuances to the concept of access itself as well as to the effective usage of technology through requisite skills, knowledge and support (van Dijk, 1999).

Thus, skills and motivation have become more important indicators of divides in empirical research, even in countries where not much research and technological development exists. For instance, Estonian experts (Kalkun and Kalvet, 2002) identified three main types of barriers to digital equality in Estonia: first, a lack of motivation; second, non-users' unwillingness to gain new skills due to their psychologically complicated sense of use, where issues of language, learning, hardware cost and accidentally harmful online behaviour matter; and, third, non-users' dismissal of lifelong learning. One may conclude that, in this case, people's skills in and motivation for technology usage matter significantly, challenging simplistic accounts of digital exclusion.

As a result of all this research contemplation, 'digital inclusion' has been proposed as an alternative concept, highlighting variations particularly in Internet usage. Such variations are presented by Livingstone and Helsper (2007) as gradations in digital inclusion, while the authors suggest that research should be refocused on the physical, digital, human and social forces that influence the social integration of ICTs. The authors employ 'a continuum of use' (ibid: 682), where gradations of use allow the detection of inequalities in use, an exploration of the efficiency and benefits of use, as well as the identification of the reasons underlying non-use. Their idea of a staged process of going online (ibid: 683) paves the way for researching digital inclusion in terms of various systemic factors that influence gradations in digital technology use. Similar conclusions are reached in accounts that suggest a hierarchical definition of digital divides, with access to technology in various contexts resulting in varying levels of engagement and consequences (Selwyn, 2004a: 351).

This graduated approach constitutes a research progression in the sense that it distinguishes the types of capital people have available, as well as the ways in which different forms of capital influence people's abilities/skills, willingness/motivation and effectiveness regarding ICT usage. Factors such as material resources and economic capacity, socialisation in the dominant culture, awareness of the prevalent techno-culture, as well as social networks, are all forces that shape our understanding of digital divides (ibid: 352-5). Thus, today more and more researchers attempt to approach digital divides beyond access and use issues. Skills, knowledge, literacy, capabilities and breadth of use (Livingstone, 2007; Mansell and Steinmueller, 2000: Ch.2; van Dijk, 1999: 153) or engagement with

technology and cultural, societal and economic parameters (Selwyn, 2004a) have now become the prevalent areas of concern in digital divides research.

Digital divides research: where do society and politics intersect?

However, the aforementioned research development remains quite limited. Although the notion of digital inclusion constitutes progress in the research on mediating systemic factors and enables a better understanding of the different degrees and facets of divides, the relationship between digital and social inequalities is understood overall in a linear way (Cammaerts and Audenhove, 2003).

This linearity persists as long as the argument that technology is powerful and can change the landscape of social divisions still influences research in the field: 'being disconnected, or superficially connected to the internet is tantamount to marginalization in the global, networked system' (Castells, 2001: 269). Recent empirical research (UK Online, 2007) still supports such an argument, considering digital inequality as the result of social divisions as well as a factor that empowers existing socially exclusionary mechanisms. Such conclusions go hand-in-hand with older research conclusions concerning the perception of ICTs as deterministically influencing social marginalisation (Loader and Keeble, 2004: 37). As the emphasis has traditionally been placed on easily measured economic and technological drivers of digital divides, research that shows, for instance, the correlation between pre-existing poverty and low diffusion of ICTs (Dekkers, 2003) can easily support the maintenance of normative assumptions about the importance of technology diffusion and the extent to which it 'must not create an information underclass' (Bickerstaffe, 2001: 104). On the other hand, equally normative have been research conclusions suggesting that the Internet, for example, does not have the potential to substantially influence economic deprivation and social disparities: 'the world has always been a place of haves and have-nots and I can see no way that internetworking is going to change this very much' (Haywood, 1998: 25).

The linear, simplistic and normative character of such theses means that the research largely overlooks the role of socio-cultural and political capital and the importance of their connections for how people adopt ICTs and for social implications of ICT adoption. That is to say that research has hardly touched upon the role of ordinary individuals and agencies, such as political agencies, and their interconnections in the distribution of symbolic capital that relates to new technologies and effects on social life. This is because economic and technological factors are given more emphasis to explain digital divides and to justify the role of such divides in people's socio-economic status and positioning. As a result, socio-cultural parameters are only approached as the reason for aiming at closing digital divides and policy or regulatory parameters are simply considered the means in order

for this closure to be achieved, whereas their combined role in digital divides is not present in existing empirical research.

From a socio-cultural perspective, socio-cultural parameters have been either underestimated or given relatively little attention. On the one hand, the complex role of human (social) resistance to, and mediation of, digital inclusion has not been emphasised enough, with the research regarding society's culture not as a primary factor but as one of many factors that influence ordinary people's participation in the information society (Frissen, 2003: 20). On the other hand, early research demonstrated that ordinary people can feel uneasy with a range of media technologies (Haddon, 1994; Haddon and Silverstone, 1995; Lodziak, 1986) and with the role of ICTs in replacing face-to-face social interaction (Haddon and Silverstone, 1995), but presented socio-cultural drivers of media-related exclusion in isolation and overlooked other systemic forces at work. For instance, in his research on single parents and young elderly Haddon (2000) shows that people's needs, cultural background, customs and everyday life are parameters that generate divergent evaluations of ICTs and the Internet in particular, but he does not place them in a broader context. From the same perspective, other more recent research has talked about self-exclusion and the existence of 'Internet resisters' (Wyatt et al., 2002),ⁱⁱ a lack of interest in ICT usage (Dutton and di Gennaro, 2005: 53; Ofcom 2004) or the role of broader socio-cultural parameters (Baron and af Segerstad, 2010; Lim and Soon, 2010; Selwyn et al., 2005) to explain why some parts of the population are not digitally and technologically included. Some also give a positive tone to their remarks about the role of socio-cultural parameters, arguing, for instance, that the Internet has become an 'infrastructure of everyday life' (Dutton and Helsper, 2007: 8) and that whether it is used or not depends on people's everyday life activities and cultures.

Moving beyond these useful insights into the role of socio-cultural parameters in the adoption of ICTs, empirical research has failed to extensively tackle the multi-faceted role of socio-cultural forces in people's decisions to adopt certain technological artefacts, or to position those forces in a broader context. For instance, the 'Internet and Daily Life' survey (Fallows, 2004) views the everyday only as a 'recipient' or 'reflection' of people's decisions to use the Internet rather than as a possible driving force of such a decision or as a space where offline and online activities interact and influence the Internet experience and the overall quality of life. More importantly, this study fails to capture the way(s) in which the socio-cultural parameters of everyday life interact with other systemic conditions and agencies at work (e.g. politics), and thus it does not provide a complete understanding of the role of everyday life in not only Internet adoption but also qualitative aspects of this adoption. Another, more recent survey (Horrigan and Rainie, 2006) attempts to examine the Internet's role in the major moments in people's lives by looking at its role in just eight everyday occasions. However, every

person has different priorities in life and therefore which moments are considered to be 'major' varies among people and cultures and depends greatly on other systemic forces at work. At the same time, the conclusion of the abovementioned research by Dutton and Helsper (2007: 8), that the Internet has become an 'infrastructure of everyday life', cannot be supported merely on the basis of people's decisions to use the Internet or not, as stated in the relevant research report.

A more insightful 'grassroots perspective' and a better understanding of the context and characteristics of the socio-cultural drivers of divides are needed: 'whilst excluded communities and individuals are unable or reluctant to use the technology, their identities and cultures remain invisible' (Loader and Keeble, 2004: 35). Only a very limited number of research works seem to attempt to contextualise and elaborate socio-cultural parameters in order to explain digital divides. For instance, a recent qualitative study (Kvasny, 2006) conducted interviews with IT trainees in a low-income neighbourhood of a major American city in order to gain insights into the trainees' views of how the technology training had made a difference to their lives. This study argues that 'culture is useful for understanding how groups conceptualise, use, and react to ICT' (ibid: 166) and insightfully views social and cultural parameters as playing a complex and uncertain role in how people perceive and evaluate ICTs. However, even this study does not pay attention to the complex role of human and everyday culture within a complex context where systemic parameters such as policy and regulation operate. Instead, it looks at culture on its own, dissociating its role in digital divides from other factors that operate at the individual and collective level.

From the point of view of political capital, the research approaches policy and regulation either as detached from digital divides or as a problem-solving field of action. On the one hand, research discourses on the role of policy and regulation often stick to the discontinuity paradigm, claiming that technological evolution has no links with structural, contextual or historical factors (Cammaerts, 2005: 73) and guiding research to normative choices about what the role of the state, the market and the position of the public interest should be and not what that role actually is (ibid: 75). On the other hand, ordinary people's positions in the system and policy provisions for empowering citizenship are increasingly linked to ideas and practices of the information society (Mosco, 1999: 36). Digital divides discourses draw attention to how politics fights against exclusion and to the implications for people's empowerment and power relations (Silverstone and Sorensen, 2005: 216; Verdegem and Verhoest, 2009). Thus, debates on welfare and the neo-liberal state and on how policy should deal with issues of inclusion, social rights and participation are acquiring fresh interest today, with an emphasis on the direct role of policy-making and regulation in fighting exclusion. At the same time, the interconnections of policy and regulation on digital divides with socio-cultural and other systemic parameters remain under-explored.

More specifically, existing research (Couldry, 2003, 2007; Murdock and Golding, 1989; Schudson, 2003; Stevenson, 1999: 33; Wilhelm, 2000) looks at digital divides from an empowerment perspective and argues that digital inclusion is a requirement for citizen empowerment and democracy. These links between digital divides, democracy and people's empowerment clearly indicate the role that politics must play in closing digital divides. For instance, Mansell (2002) criticises the strong control exercised by the market on policy-making in the information society and argues the need for a policy shift that will focus more on people's capabilities and their need to acquire new media literacies. Thus, she suggests that policy-makers should be kept away from dominant market interests so as to change currently dominant media configurations that undermine the establishment of a new 'publicness' addressed to the majority of people as well as the vision of including all people in the information society.

However, these authors, along with Castells' early point that 'outside the media sphere there is only "political marginality"' (1996: 312) take, at least in part, a linear and normative perspective. ICTs are still presented as fundamentally transforming societies and constituting the foundation of democracy and of people's empowerment, while politics is normatively assessed as a problem-solving domain of action in which divides are to be addressed. Uneven and unequal ICT diffusion are considered critical to the shrinking or widening of other disparities, while the ways in which socio-cultural and political patterns of organisation separately and together influence in more than one direction the take-up and use of technology and its social impact have, wrongly, drawn only little attention. This is to say that I agree with Loader's (1998: 3) early criticism that most of the literature understands the relationship between ICTs and society as linear, while perceiving politics as influencing digital divides in a one-dimensional way.

Extremely limited research literature provides the insight I am proposing here. For instance, ethnographic interviews of 70 Internet users and non-users in 20 family groups in the USA (Clark et al., 2004) look indirectly at policy-making from the perspective of ordinary people and report that ordinary people articulate a discourse of individualism, arguing that ownership, access to and usage of the Internet are the responsibility of the individual and not of political authorities. On the other hand, a study of digital divides in South Africa (Khumalo and Sibanda, 2006) highlighted the role of policy in digital divides from a cultural perspective and usefully found that women in rural areas feel disempowered, discriminated and neglected as the traditional culture of the country is present in decision-making mechanisms and excludes them from the information society. The conclusions of this study help us to understand how decision-making may reflect society's culture, guaranteeing inclusion for certain groups of the population (e.g. males in urban areas) and exacerbating divisions for others (e.g. females in rural areas).

The very limited research that looks at both socio-cultural parameters and decision-making in order to account for digital divides indicates the need for a more careful, rich and systematic exploration of the ways in which individual values, perceptions and attitudes are interconnected with institutional and systemic factors such as policy and regulation. Close interdependencies of socio-cultural contexts and policy and regulatory mechanisms appear, and often mean that ordinary people experience uncertain degrees of inclusion in the information society while decision-makers and other minority groups take over both institutionally and psychologically. An insightful approach to digital divides should shed light on the complex relationships between ICTs and multi-sided socio-cultural and policy features, as well as on the illusive nature of discourses which argue that digital inclusion can effectively eliminate social exclusion and marginalisation. Digital inclusion is not a solution to the multi-dimensional problem of social exclusion and should be seen as a facilitator or result of the dialogue and interdependencies between socio-cultural traits of and policy and regulatory practices in the information society.

This idea of positioning digital divides in a complex socio-cultural and political context in order to explain them and to better understand their importance constitutes the core of this article's proposition to revisit digital divides and research into them. The approaches of existing research to digital divides tend to neglect the interactions between policy, regulation and a society's culture in their attempt to articulate a synthetic and overarching account of digital divides. However, I have recently shown that this suggestion for contextualisation can be a useful means by which research can understand, evaluate and explain digital divides (Tsatsou, 2009). Looking at the case of digital divides in Greece, my research has found that decision-makers are developing a dialogue with ordinary people and their culture which is marked by internal contradictions and inconsistencies. Decision-makers often appropriate socio-cultural traits to serve their narrow professional interests, while being subject to the demands of populist voices in society and to a range of societal traits (e.g. traditionalism and techno-phobia in Greek society), thus espousing backward policies and regulations in the information society. On the other hand, ordinary people may dismiss digital technologies, blaming policy and regulation, whilst they appropriate decision-making mechanisms to serve their individual interests. Thus, while people require political change, efficiency and accountability in the information society, they often reject innovative policies that put their lifestyles and routines at risk (e.g. introduction of digital technologies in the workplace). Such interactions between decision-making and socio-cultural contexts, as concluded in my research of the Greek case, enable one to understand not only the reasons for underlying digital divides but also the deeply socio-political nature of divides, thus furthering the discourses on conventional access and usage.

However, this is a limited and case-focused research insight. The discussion in this article has attempted to highlight a broader need to revisit research so that future research contextualises the concept and phenomenon of digital divides appropriately, providing rich insights into how the interactions between ICTs, socio-cultural factors and decision-making might in different contexts have varying influences on the nature and importance of digital divides.

Conclusion: digital divides revisited

In concluding, this article proposes revisiting digital divides and the research on digital divides so as to emphasise the critical role of socio-cultural and decision-making dynamics in structuring the adoption of ICT in both qualitative and quantitative terms. This proposal rests on the argument that the web of cultural traits in a society, with its own gaps and disparities, as well as policy and regulation dynamics, are in a constant dialogue with technology, together influencing social inclusion and participation.

This article has provided a critical account of research literature in the field, as research has not appropriately contextualised the concept and phenomenon of digital divides by mainly taking either techno-centric or economy-driven approaches to explain divides. Further, even studies that take a more socio-cultural or policy-motivated approach lack an insight into the interactions between ICTs, socio-cultural factors and decision-making when they examine the nature and importance of divides, failing to place divides in a complex socio-political system.

Digital divides should be viewed within a complex context where decision-makers' problem-solving and other practices meet and interact with ordinary people's attitudes and life cultures. Research needs not only to move beyond access and usage indicators and to avoid binary or 'exclusion-heavy' accounts when exploring the nature and importance of digital divisions, but also to place indicators such as quality of use (Selwyn, 2004a) and variations in usage (Livingstone and Helsper, 2007) in context in order to avoid linear explanations and to explore them systematically. At the same time, such a proposition should go beyond theoretical elaboration. There is a need for empirical research and an evidence-based approach to digital divides in this direction in order to yield more concrete insights into the ways socio-cultural and decision-making dynamics influence the nature and importance of digital divides today. For instance, the case-focused research I recently conducted on Greek digital divides provides useful conclusions about the complexity of interactions between society's culture and decision-making parameters, thus looking at the combined forces

driving the phenomenon in that country and illustrating the usefulness of such an approach in empirical terms (Tsatsou, 2009).

Nevertheless, the proposal to revisit digital divides and the related research cannot and does not answer all outstanding questions in the field. It mainly provides recommendations about contextualising digital divides and evaluating their importance. Again, these recommendations are far from exhaustive and their validity might vary from case study to case study, necessitating their empirical testing.

Notes

ⁱ For instances of this rhetoric, see Couldry, 2007: 385-8.

ⁱⁱ Wyatt et al. (2002: 33) refer to a 'potential gap between heightened expectations and the reality of the "internet experience"' as one of the causes of dropping out.

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