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# GUEST EDITORIAL

# Exclusion, inclusion and changing the face of information systems research

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## Abstract

**Purpose** – The purpose of this paper is to reflect on the issues of social and digital exclusion and inclusion arising from the development of a digitalised society. It aims to highlight the significance of this for the study of information systems by describing the context for this special issue, outlining a number of previously under-researched areas, giving an overview of the papers chosen for this special issue and describing future directions for research that recognise non-users and marginal users as important actors in designing and evaluating systems in use.

**Design/methodology/approach** – The paper sets the scene by discussing the impact of mass involvement in digital culture on the field of information systems and analyses each paper, suggesting ways in which they relate to the chosen themes and drawing conclusions from this discussion.

**Findings** – The papers chosen address thematic issues, theoretical foundations, methodological issues, empirical studies and reflections on inclusion and exclusion from the digital society.

**Originality/value** – The paper highlights the growing interest in engagement with the digital culture in the information systems discipline and enables reflection on barriers and opportunities for developing research across boundaries of disciplines, cultures, organizations and accepted topics. It indicates that information systems researchers have an ethical responsibility to consider the impacts of innovations on the least powerful in society as well as the more privileged.

**Keywords** Social inclusion, Digital communication systems, Information literacy, Information systems, Ethics

**Paper type** Viewpoint

Information systems researchers have long been aware of the risks posed by the ever-wider adoption of information and communication technologies (ICTs). However most recognition of problems has largely been confined to disruption in the workplace and the risk to organisational effectiveness posed by poorly designed or implemented systems. There has been a gradual increase in awareness of the wider societal risks in

The guest editors would like to thank the reviewers who read the submissions with care and insight and provided comments that the authors have told them they found encouraging and stimulating. The guest editors are grateful to the authors for offering them a range of interesting and valuable articles; they have learned much from the unsuccessful papers as well as the included ones. The guest editors are also grateful to the editors of *Information Technology & People* for their support and sage advice.

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areas such as surveillance, privacy and cyber-crime but it is only in the past few years that the threat posed by technology adoption to social inclusivity has been addressed. Until computer use, and even more so internet use, became majority activities in more economically developed countries, non-use did not exclude people from mainstream economic and cultural activities. Before that point any study would have been of privilege gained by the already privileged. However there has also been an increase in the awareness of the societal aspects of computer use; led by studies of the implications of engaging with the digital society arising from globalisation (Walsham, 2005) gender (Adam, 2002; Adam *et al.*, 2004; Trauth and Howcroft, 2006) and race (Kvasny and Trauth, 2002). Meanwhile, issues of disability and computing, while extensively researched, had largely been addressed as a technical concern about accessibility and HCI rather than as one of social exclusion. The pioneering studies of aspects of digital inequality engendered a slow evolution in information systems as a field.

Recently the pace has quickened; a number of conferences and conference tracks have explored ICTs and social inclusion and exclusion, The conference theme of ICIS 2006 was "IT for Under-served Communities" exploring how to extend the reach of the ICT industries; the topic of IFIP working group 8.2's 2006 conference was "Social Inclusion: Societal and Organizational Implications for Information Systems" (Trauth *et al.*, 2006) and there were tracks at ECIS in 2006 on "Living in, and Coping with the eSociety" and 2007 on "Public Sector Information Systems – Providers, Users and Citizens". This activity discloses a number of areas to be addressed: the relationship between international and intra-national divides; the diverse set of skills and dispositions required to make use of digital technologies; who gains the benefits of digitalisation; and the importance of recognising the non-user as an actor.

The discussions at the conferences clarified a necessary division between two distinct areas of study which had been confusingly co-located under the Digital Divide banner. First, the gap between technologically and economically more developed countries, and less developed countries. Second, the divisions within more developed counties which had been variously argued to be exacerbated (Selwyn, 2002) or attenuated (Policy Action Team 15, 2000) by the spread of ICTs. The first phenomenon continues to be described as a Digital Divide, the second is increasingly described as digital exclusion (Cushman and Klecun, 2006) or digital inequality (Payton, 2008). While the inter-state divide has many special issues, and even whole journals, devoted to it, the intra-state divides are less well documented or analysed and suggest a number of areas that have received insufficient attention up until now.

As Klecun (2008) notes use of technology depends on access, skills and disposition to use. The skill set of digital literacy depends on multiple and overlapping literacies: traditional print literacies, not just reading and writing skills, but also spelling for effective searching; technical literacy skills (computer literacy) required to understand and manage the equipment; information literacy skills needed to locate and sift the vast amounts of data retrieved; and media literacy skills to understand and critically engage with the information found and to engage with image, sound and multi-media. Thomas *et al.* (2007) have helpfully grouped all these skills under the concept of transliteracy. However, as Zheng and Walsham (2008) note, much information that is stored in and retrieved from ICTs is numeric and hence numeracy skills are required for its understanding and use. However, just as media literacy (Livingstone, 2004) scholars direct our attention to critical understanding, critical numeracy is also required if users

are not to be misled by charts, graphs and statistics that are mendacious or misleading either by intent or because of the limited skills and understanding of their creators.

Much work on the diffusion of ICTs has examined the network effects and benefits of the increased number of participants. What has not been noted are the costs to those outside the network. These become more extreme as they are concentrated on fewer and fewer non-users. To be a non-user of e-mail in Europe or North America in 1990 cost very little; by 2000 the cost was significant; now to be among the minority of non-users excludes a person from many day-to-day activities and imposes a considerable social and cultural as well as financial burden. If use continues to grow, as is anticipated, then those in the residual category will carry an ever-increasing burden. This is not an unprecedented phenomenon: illiteracy in Britain in 1800 did not pose a problem of exclusion, by 1900 only a minority were illiterate and were marginalised by their inability to read; similar effects followed the spear of landline telephony. It is increasingly unreasonable, even unethical, to continue to ignore the imposition of costs upon the least powerful in society while celebrating the benefits accruing to the most privileged.

This overlooking of the costs of exclusion affects the business cases drawn up by public bodies for e-government initiatives. Such business cases typically address the costs and feasibility of technology deployment and the anticipated savings in administrative costs of data entry and handling. As they ignore the costs placed on non-users there is no financial benefit recognised to offset the costs of attempting to include the marginal users who are difficult and more expensive to reach. Consequently the inclusive potential of e-service initiatives is not fully realised or even results in increased exclusion. Digital engagement brings both a cost and responsibility shift to citizens of the e-society who do not necessarily have the resources or skills to take this on (McLean, 2008).

In the light of these ethical concerns, a growing interest by an increasing number of information systems researchers and the gap in the journal literature, the editors of this special issue approached the editors of *Information Technology and People* with a proposal to produce an issue of *ITP* that would explore this interesting and important area. We chose to approach *ITP* because of its continuing interest in the role of the individual in relation to the technology and by extension its openness to considerations of the social aspects of computing. *ITP* has had a continuing interest in the role of the user of technology as well as the designer. Further we thought it was time to address the challenge set by Oudshoorn and Pinch (2003, p. 25) "Non-users and people who resist technologies can be identified as important actors in shaping technological development". However we would argue that the "can" must become a "should" if we are to more fully understand the technologies we study and their social impacts. Non-user centered design is a challenge we must face.

Consequently a call was issued which highlighted:

- The skills and resources required for participation in the e-society.
- Policies for the promotion of ICT/media e-literacy and the effects of illiteracy.
- Policies and infrastructures for universal ICT access
- Availability of, and engagement with, electronic services (including e-Government, e-health services, and private or commercial services).

- Effects of e-services on reducing or increasing inequality and the inter-relationships between digital and social exclusion.
- Public sector strategies for electronic inclusion.
- Commercial and not-for-profit organisational models, pricing strategies and support initiatives for inclusion.
- Provision of electronic services through more familiar devices (e.g. iTV, SMS).
- Individual perceptions of internet risks and dangers, and strategies of managing and living with these risks.
- Social and organisational strategies in the design and use of electronic services (e.g. service support, infomediaries, social capital).
- Individual perceptions of internet risks and dangers, and strategies of managing and living with these risks.
- The experiences of non-users of electronic channels and services.
- Methodologies and epistemologies for researching the experience of living in the e-society.

We received 22 varied and interesting papers. The five papers chosen for inclusion discuss a range of causes of exclusion and strategies for promoting greater inclusion. Three of the papers describe research carried out in the UK, but which explore phenomena that are common to all more economically developed countries. Two describe societies fragmented on ethnic lines: one with a privileged majority, Australia; the other draws on findings from both a country with a privileged minority, South Africa, and a rapidly developing country, China. Consequently the concerns of the selected papers are at one level very disparate, ranging from: gay bars in northern England to aboriginal communities in Western Australia; and from nurses in rural hospitals in South Africa to older participants at Meet the Mouse workshops in Wales. Despite this range of research locations some common themes emerge in the construction of inclusion or exclusion through successful or unsuccessful interactions with unfamiliar technologies and the relationship between individuals' social, cultural and educational capital, their social context and the particular technological formations they encounter. A common theme is that the issues that emerge are not ones of methods of adoption but the ways in which technologies are, or are not, integrated into daily life; they are the achievement of personally constructed projects of users rather than the aspirations of the sponsors and designers.

Each of the papers adopts a qualitative approach: interpretative, constructionist or critical. This is not accidental; while many aspects of use and non-use can be reliably measured the experience of exclusion is not so easily subject to a numerical scale. It is the experience of exclusion which is significant. For different individuals, apparently similar descriptors of race, gender or poverty can give rise to very different feelings, similar to Bartis and Mitev's (2008, p. 113) concerns about, "the multifaceted nature of IS and the subjectivity of the terms 'success' and 'failure'", when considering information systems failures. The relevant social groups (Pinch and Bijker, 1987) who determine the inclusionary or exclusionary effects of a system must include the non-users as well as the users. Their interpretations must be sought in constructing any narrative of inclusion.

**Papers accepted for this special issue**

The first paper in this special issue ("Inequality of what? Social exclusion in the e-society as capability deprivation") makes a theoretical and methodological contribution in adopting the lens of capability theory (Sen, 1992) to ask "inequality of what?" The authors pose the question "social exclusion in an e-society is inequality and deprivation, but of what?" Through two empirical examples, one based on the introduction of a district health information system in rural South Africa and the other on the information policy in the handling of the SARS epidemic in China, they illustrate how inequality and social exclusion in the e-society are partly rooted in the capability to access and use information rather than just in the access to technological resources. In conclusion the paper argues that the perception of social exclusion as capability deprivation highlights the importance of grounding the investigation in local conditions. By drawing attention to aspects of both information literacy and information availability Zheng and Walsham's paper sets the scene for this special issue; notwithstanding that each of the papers that follows explores inclusion and exclusion in highly contrasting local conditions,

The two following papers consider digital exclusion within the UK, demonstrating the salience of intra-state research.

Hill, Beynon-Davies and Williams' paper ("Older people and internet engagement: acknowledging social moderators of internet adoption, access and use") considers the position of older people in Wales as citizens of a digital society. Highlighting the lack of a theory or model to understand the issues of the digital divide amongst this expanding group, they focus on internet engagement to construct a research framework. Through the framework the paper explores the experiences of older people at a series of "Meet the Mouse" workshops funded by the Welsh Assembly. In conclusion, the model is also used to highlight a number of strategies that should be considered in future policy intervention in this area. This leads the reader into the next paper, which offers a critique of government discourse on digital exclusion and IT curriculum design.

The third paper ("Bringing lost sheep into the fold: questioning the discourse of digital divide") resonates with many of the themes set out in the call for papers for this special issue. Klecun considers digital exclusion within the UK through an analysis of academic literature, policy documents, project reports and the findings of the Penceil project carried out in a south London public housing estate. She suggests that government and media discourses objectify non-users as "other" excluding them still further. From a Critical Theory perspective the paper calls into question current discourse and initiatives addressing the digital divide, highlighting their limitations. In an attempt at praxis, it presents alternative ways of responding to digital exclusion, for example a curriculum should be determined by learners' experiences, their expressions of needs, going far beyond IT skills. Further, the paper raises the concept of *refusniks*, and legitimises them, recognizing that people should be allowed to make an informed choice concerning their own joining or declining to join the digital society, something that is often portrayed as negative or a deficit and discussed in terms of resistance or ignorance. In recognising this exercise of agency Klecun does not minimize the costs born by those who exercise this choice. This paper echoes the tone of Zheng and Walsham's paper yet is situated in entirely different local conditions.

The fourth paper by Letch and Carroll ("Excluded again: implications of integrated e-government systems for those at the margins") demonstrates how we need to pay

attention to the conditions of implementation of systems as much, if not more than, the characteristics of the system; an essential focus if researchers are to describe, and – even more importantly – policy makers are to anticipate the inclusionary potential and the exclusionary risks of e-government initiatives. By deploying Kling *et al.*'s (2003) STIN modelling approach they demonstrate how even a well intentioned initiative to reduce the high road accident rate among the Ngaan increased the marginalisation of a group already subject to extreme exclusion and discrimination. They show how an IT project, by reducing the discretion available to local actors, damaged those it intended to assist. The system privileged top-down concerns about consistent treatment even though the rules were not constructed in a way that made sense of the nature of daily life among people whose conditions of existence were far from those imagined by the rule writers and system builders. The space that boundary spanners (Williams, 2002) require to negotiate between the concerns of the Ngaan and the bureaucracy was fatally reduced.

Finally Light, Fletcher and Adam ("Gay men, Gaydar and the commodification of difference") discuss how the development of a portal has transformed how gay men are able to organize their social lives and relationships. The group this paper considers do not lack social and educational capital or technical skills; however in conducting their personal lives they are excluded from majority society, both from fear of harassment and by personal choice. Unlike the other groups considered in this issue, their adoption of new technological platforms does not have an inclusionary intent; it rather seeks to facilitate an improved quality of life separate from majority society. The paper as well as highlighting how technology is domesticated within a form of life also opens a discussion of male homosexuality with the information systems literature. As the authors point out, while this topic is absent from our field, such a lacuna is not apparent in others. The IS literature on other aspects of exclusion, such as race, gender, poverty and illiteracy is underdeveloped but present, that on male heteronormativity is absent. The paper is included not because of its domain of study, important and interesting though it is, but because it sheds valuable light on commodification through technology. Unlike the other subjects of this issue, gay men in the UK as a group have considerable economic resources. It is through technology that these resources that they became an accessible part of the market economy. Thus this paper will also be significant for those researching e-commerce and how it becomes integrated into the lives of more diverse parts of society.

These papers indicate a way forward and indicate a number of pointers for future studies:

- Widen our questions to interrogate the implications for marginal groups.
- Engage marginalised participants in our research not just make them the objects of research through action research; not restrict ourselves to laboratory experiments and questionnaires.
- Continue to push at or erode the boundaries of the tradition of the IS field.
- Tools such as the Technology Adoption Model (Davis, 1989) derive from the corporate domain. Whatever their merit there, they devalue and exclude when applied in other environments (Cushman and Klecun, 2006).
- Recognise that many of the ways we undertake research, from our conceptual models through the framing of our research questions to the contents of our

questionnaires and topic lists are themselves exclusionary: they reflect our privileged world view not the life-worlds of the excluded who we claim to be emancipating.

- Emancipation is delivered not through the pages of journals such as this (although they may be important intermediary steps) but by changes in the circumstances of life of those with least access to power and resources

## Conclusion

The eclectic and distinctive nature of papers in this special issue reflects the changing face of the information systems field; our boundaries are eroding. As technology begins to touch every facet of our lives IS research is no longer contained within the organisation, but touches on all aspects of life from work, education and health to community development and leisure. Information systems researchers have been reluctant to widen their field of concern; partly because the location of many researchers in business and management schools has over-influenced the scope of the discipline. While social informatics, in Kling's term, or the social study of information and communications technologies in Ciborra's has been an important, if deviant, concern of our field it has rarely taken centre stage. Many of the concerns that should centrally be "ours" have received more attention from scholars in media studies, science studies and sociology. We welcome their contributions but as ICTs pervade social life more and more insistently we must move beyond the organisation as our focus; not just by exploring the relationships with customers and employees. While e-government is a growing research domain we must look at its social and political effects not just its technical and administrative dimensions. These should be concerns for our teaching as well as our research. The new dimensions of the information systems field have begun to be reflected in publications, conference themes and course development. We believe that the papers in this special issue make an important contribution to this redefinition of our efforts. We have outlined more concerns than can be addressed in five papers of one issue we hope to see the themes we have adumbrated explored elsewhere and, in turn, be critiqued for the narrowness of our vision.

Wyatt (2003, p. 79) set out a similar project for Science and Technology Studies:

> The use of information and communication technology (or any other technology) by individuals, organisations, and nations is taken as the norm, and non-use is perceived as a sign of deficiency to be remedied or a need to be fulfilled. The assumption is that access to technology is necessarily desirable, and the question to be addressed is how to increase access. Sometimes the answer involves investment in infrastructure, public education to overcome ignorance and fear, or training and standardisation to improve ease of use. Informed voluntary rejection of technology is not mentioned. This invisibility reflects the continued dominance of the acceptance of the virtues of technological progress, not only among policy makers but also within the STS community.

Her admonition applies equally to us; we believe this issue makes a significant step towards the goal she points us at.

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