TECHNOLOGY AND THE SOCIALLY EXCLUDED: THE SIGNICANCE OF HUMAN INFORMATION INTERMEDIARIES

Kieran Mervyn
Roehampton Institute
UK
E-mail: kieran.mervyn@roehampton-online.ac.uk

David Allen
Leeds University Business School
UK

E-mail: da2@lubs.leeds.ac.uk

Andrew Brown
Leeds University Business School
UK
E-mail: a.brown@lubs.leeds.ac.uk

Abstract

The paper reports on a research project undertaken into the use of technology to either replace or augment the roles of human information intermediaries working in local government agencies providing support for socially excluded groups. The work was underpinned by Activity Theory and was qualitative using interviews and observations. The study reports when human information needs of the socially groups are elevated the satisfaction of their needs required the intervention of intermediaries.

Introduction

Information technology has long been seen as a tool for increasing social inclusion and it has been suggested that technology can play a powerful role in the inclusion of the marginalised and the excluded in society (Andrade & Doolin, 2016). Indeed, this has been seen as a key rationale for the transformation of government services by the provision of technology mediated services. These are seen as facilitating citizen self-service access to information and services by removing any role for bureaucratic intermediaries and, more ambitiously, empowering

citizens to actually participate in and shape policy (Fishenden & Thompson, 2013). However, given the often low information skills of the socially excluded, the impact of ICT-enabled self-services on social exclusion is open to question. The research reported in this paper explores the use and impact of digital government services on socially excluded groups focusing on the role of intermediaries.

This was explored in two regions of the UK where local government created digital infrastructure with the specific objective of addressing the issue of supporting social inclusion. In the first city, a local government provided direct access to information by providing Wi-Fi-hotspots and laptops in the physical spaces occupied by the 'excluded' (specifically, a disability forum and women's refuges but including sites such as a Gujarat Hindu Society and Muslim Forum) with the intention that the self-service approach would be deployed and the socially excluded could and would access information themselves. In the second city a local government benefits and revenues department used mobile technologies to empower and support intermediaries, allowing reconfiguration of their roles.

Literature Review

Sorrentino and Niehaves (2010) note that most existing studies fail to conceptualise the intermediary, and that it is a relatively unexplored field that requires an investigative effort. Sein and Furuholt (2012) note that the role of intermediaries has not been vigorously examined in the context of the digital divide. This reflects the wider argument that while e-Government and the digital divide research and practice should be connected they are disjointed and few explicit intersections can be found. Thus it is despite of a lack of evidence rather than in light of evidence, that the model of disintermediation has been implemented through the use of technology to address social exclusion, in both advanced and developing economies.

The first is the important role that human information intermediaries play in enabling social inclusion. Observers (James, 2005; Sein, 2011; Watkins, Tacchi, & Kiran, 2009) have illustrated

the importance of human intermediaries for redressing people's literacy, numeracy and technical skill deficiencies, which prohibits access and use of public information. Research undertaken in a developing country context found that human intermediaries cement engagement between citizens and public administrative services (Haque & Kamna L, 2013; Rajalekshmi, 2008; Ravishankar, 2013; Sein, 2011; Watkins, 2010; Watkins et al., 2009). Sorrentino and Niehaves (2010)'s work provides an additional perspective exploring the role of human intermediaries in enhancing public value and reducing the e-Inclusion gap: they argue that human intermediaries could potentially enhance public value and may serve as the: "Bridge-concept that connects intermediaries, e-Government and e-Inclusion" (2010: p.8). From an international development perspective on human intermediaries, it has been noted (Sein, 2011) how various third party human intermediaries have attempted to fill the information void between government and under-served citizen encompassing civil society (Grönlund, 2000), activists and religious voluntary groups , and aid organisations (Bailey, 2009). Sein (2011) further noted that while the role of these groups has been discussed in the literature their involvement directly in the interaction between government and citizen has received less explicit attention.

Methodology and Methods

The approach taken was informed by Activity Theory. Activity theory has served as a fluid, conceptual and analytical framework in a plethora of research studies including the design of constructivist learning environments (Jonassen & Rohrer-Murphy, 1999) and gauging ethical and moral dilemmas of identity (Roth, 2007) through to technology adoption (Sun, 2012) and attempts at understanding technology-mediated social change (Allen, Brown, Karanasios, & Norman, 2013). Activity theory is also becoming emergent in the ICT4D field and helps to ascertain how ICT4D is enabling changes at an activity-centric unit of analysis in development settings (Karanasios, 2014; Karanasios & Allen, 2013).

Activity theory in the present study allowed us to focus on the activity of the information behaviour of the socially excluded individual as the prime unit of analysis within which technology is just one element, enabling the illumination of socio-cultural and historical relationships between people and artefacts (including technology artefacts) (L. Vygotsky, 1978; L. S. Vygotsky, 1981). A methodical understanding of activity theory and social inclusion encompassing macro-to-micro levels of activity, is provided by Mervyn, Allen and Simon (2014) which focuses on the activity systems under study through to the focus on actions and interrelations between the two.

In Mobile City, a total of 34 semi-structured and four open-ended interviews were conducted in two tranches. Follow up interviews and observations were then conducted. Data were also collected through site visits and telephone conversations with key respondents in three consecutive years. Interviews were conducted with clients (the socially excluded), visiting officers, operational managers and senior management. In Aug City a total of 35 semi-structured interviews, one focus group interview and two telephone interviews were conducted with a range of stakeholders including senior and operational council management, councillors, wireless network providers, third sector service providers and clients. Data collected from two organisations in Aug City are reported in this paper: a women's refuge organisation and a disability group. In the Women's Refuge organisation fourteen interviews were conducted in one Women's Refuge safe house, one drop-in centre and one administration site containing the central planning and operational office. In the central office seven additional interviewees ranged from Volunteer Co-ordinator, Independent Domestic Violence Advisor to Refuge Support Workers. The second stage of research was undertaken with the assistance of a female researcher because of gender access issues. Three interviews were initially undertaken in two separate rooms at Central Offices, with the Chief Executive and Volunteer Co-ordinator. All transcripts were coded into themes using NVIVO (data insight and analysis software) and the text was explored at different levels of analysis.

Discussion and Findings

One of the key findings from the research is that when human information needs of the socially groups are elevated (as occurred in both cases) the satisfaction of their needs required the intervention of intermediaries to redress micro and macro barriers and enhance social participation. This confirms the findings of earlier research, however, our work also points to the fact that their role is so essential that even when they were actively replaced by technology they remerged. We also found that when they were actively supported and developed then the effect on inclusion was profound.

A redesign of public services with the removal of traditional state provided intermediaries in the Aug City study led to the emergence of a new type of professional which crossed organisational boundaries and augmented traditional service activities to address this need. Aug City intermediaries were *not* professionally trained people and *not* provided by the state. Rather, they emerged as a consequence of the non-interventionist business model adopted by the Council.

Clients in both Aug City and Mobile City reportedly struggle with financial difficulties and often require debt management advice and support. The following quote illustrates an intermediary's role in this respect: "*I [assist] in terms of speaking to people from the housing [department] and making sure [clients] get their benefits OK. Keeping records of their support meetings, doing individual support plans to make sure that we have a package in place to fulfil their needs, really*" (Respondent F, Aug City, Safe House Manager). The on-line activity was closely allied with mediation of access to face-to-face services and can be seen as an extension of existing routines. Aug City Refuge respondents stated: "*If [clients] want an appointment with the GP or housing officer, we'll help them arrange it and meet up with them and take them along*" (Respondent B: Manager,); "*They need us to look [online] at things to do with health and child tax credits and that sort of thing on the [government] websites*" (Respondent F, Safe House

Officer). While not trained as professional information intermediaries, the respondents indicated that information work formed a significant element of their role:

> "The main focus is helping the women move on and get back into leading a normal life and help them find employment… Quite often we will access information on our clients behalf, information on childcare for example, registered child minders for parents who want to want to get back into work. We also look for information on the benefits system; we're able to download information and give it to our clients, instead of having to ring someone and ask them to send out leaflets and then wait an age to get this information through the post, I can get the information immediately" (Respondent D, Centre Officer).

Conversely, Mobile City intermediaries were centrally planned professionals, yet their role evolved through the functionality of mobile technologies. The interventionist model proved most effective, partially because of the fluid and dynamic role played by individual visiting officers. In Mobile City the local authority used mobile and wireless technology to redesign the way in which existing intermediaries worked. They moved from an environment where different services provided separate information services normally within physical locations, which could be visited by the citizen and would interact with a human intermediary, to an integrated approach where systems were provided through and on a vehicle (called the 'benefits bus'), which travelled to areas within the city and provided integrated services offered by intermediaries (visiting officers). The officers had access to centrally provided systems both within the bus and in citizen's homes using laptops. The approach was led by the Revenue and Benefits Department in an attempt to ensure that benefits were being fairly and effectively distributed to those eligible for them focusing on alleviation of poverty and empowering citizens to take up a wider array of benefits that they may be entitled to. These new mobile working arrangements have placed Mobile City visiting officers (VOs) at the heart of service provision: *"… So if a person is at someone's home or on the bus, they will be able to go onto the customer relationship management system and deal with any issue raised"* (Respondent K, VO).

In Mobile City the technological tool enabled a restructuring of the activity system with visiting officers, for example who are increasingly working as generalists rather than specialists and addressing a variety of information needs. In this respect, visiting officers are delivering single

organisational objectives relating to performance related visiting targets set for them by government whilst simultaneously addressing broader social issues. Crosby and Bryson (2005, p.8 in Gil-Garcia, Pardo & Burke, 2007) discuss the implications of service diversification as a: *"No-one-in-charge, shared-power world",* where increased levels of agencies and groups may diminish responsibility levels. Power dispensation between the respective parties may restrict authority to neither adequately address public problems nor redress social ailments, and: *"... As a result, the need has been raised for a new type of leadership that crosses boundaries of departments, levels of government, and sectors"* (Gil-García et al., 2007: p.2). Mobile ICT use by intermediaries has also led to emergent forms of government-to-citizen interaction (I2G2C). Visiting officers (and councillors) are actively listening to and responding to citizens needs much more than during traditional service activities. They are, in effect, presuming a leadership role by by-passing traditional channels in their quest for a solution to significant social questions (Leslie & Canwell, 2010). This is important because it illustrates how disruptive technologies are altering the relationship between council employees tasked with addressing social exclusion and citizens.

In both Aug City and Mobile City human intermediaries can use the technology to provide personalised and customised services. In this respect, the connection between human intermediaries, e-Government services and mobile information and communication technology emerges from both case studies reinforcing the work of Hsieh et al., (2008) who established that those with greater levels of social, economic and cultural capital (e.g. intermediaries) were more adept, and able to exploit, the functional characteristics of new technologies, and use new technologies as strategic artefacts.

Conclusion

Our key finding is of the profound importance of human intermediaries in the provision of digitised services to the socially excluded. Attempts at self-service and disintermediation to help the socially excluded can remove vital help previously available to socially excluded citizens in the form of human intermediaries, leading to unintended and uncertain outcomes and impact. Unless new human intermediaries emerge to fulfil the vital role of information intermediary for the socially excluded (and we find evidence that they do, despite this running counter to the self-service ethos of digital governance) (Beynon-Davies, 2007; Chan et al., 2010; Saeed & Abdinnour, 2013) the outcome of attempted disintermediation can be to increase, not decrease social exclusion.

References

Allen, D., K.,, Brown, A., Karanasios, S., & Norman, A. (2013). How Should Technology-Mediated Organizational Change Be Explained? A Comparison of the Contributions of Critical Realism and Activity Theory. *Management Information Systems Quarterly, 37*(3), 835-854.

Andrade, A. D., & Doolin, B. (2016). Information and communication technology and the social inclusion of refugees. *MIS Quarterly, 40*(2), 405-416.

Bailey, A. (2009). Issues Affecting the Social Sustainability of Telecentres In Developing Contexts: A Field Study of Sixteen Telecentres in Jamaica. *Electronic Journal of Information Systems in Developing Countries, 36*(4), 1-18.

Beynon-Davies, P. (2007). Models for e-government. *Transforming Government: people, process and policy, 1*(1), 7-28.

Chan, F. K. Y., Thong, J. Y. L., Venkatesh, V., Brown, S. A., Hu, P. J. H., & Tam, K. Y. (2010). Modeling Citizen Satisfaction with Mandatory Adoption of an E-Government Technology. *Journal of the Association for Information Systems, 11*(10), 2.

Crosby, B. C., & Bryson, J. M. (2005). *Leadership for the common good: Tackling public problems in a shared-power world* (2nd ed.). San Francisco: Jossey-Bass.

Fishenden, J., & Thompson, M. (2013). Digital Government, Open Architecture, and Innovation: Why Public Sector IT Will Never Be the Same Again. *Journal of Public Administration Research and Theory: J-PART, 23*(4), 977-1004.

Gil-García, J., Pardo, T., & Burke, B. (2007, May 31 - June 2, 2007). *Government Leadership in Multi-Sector IT-Enabled Networks: Lessons from the Response to the West Nile Virus Outbreak.* Paper presented at the Leading the Future of the Public Sector: The Third

Transatlantic Dialogue. Workshop 4: Leading in a Multi-Sector Environment, University of Delaware, Newark, Delaware, USA.

Grönlund, A. (2000). *What's In a Field - Exploring the eGovernment Domain*. Paper presented at the Proceedings of 38th Hawaii International Conference on System Sciences (HICSS'05), Big Island, Hawaii, USA.

Haque, A., & Kamna L, M. (2013). Governance in the Technology Era: Implications of Actor Network Theory for Social Empowerment in South Asia. In *Grand Successes and Failures in IT. Public and Private Sectors* (pp. 375-390). Berlin Heidelberg: Springer.

Hsieh, J., Po-An, J., Rai, A., & Keil, M. (2008). Understanding digital inequality: Comparing continued use behavioural models of the socio-economically advantaged and disadvantaged. *MIS Quarterly, 32* (1), 97-126.

James, J. (2005). The global digital divide in the Internet: developed countries constructs and Third World realities *Journal of Information Science, 31*(2), 114-123.

Jonassen, D. H., & Rohrer-Murphy, L. (1999). Activity theory as a framework for designing constructivist learning environments. *Educational Technology Research and Development, 47*(1), 61-79.

Karanasios, S. (2014). Framing ICT4D research using activity theory: a match between the ICT4D field and theory? *Information Technologies & International Development, 10*(2), pp. 1-18.

Karanasios, S., & Allen, D. (2013). ICT for development in the context of the closure of Chernobyl nuclear power plant: an activity theory perspective. *Information Systems Journal*.

Leslie, K., & Canwell, A. (2010). Leadership at all levels: Leading public sector organisations in an age of austerity. *European Management Journal, 28*(4), 297-305.

Mervyn, K., Simon, A., & Allen, D. K. (2014). Digital inclusion and social inclusion: a tale of two cities. *Information, Communication & Society* 19 (7), 1086-1104.

Rajalekshmi, K. G. (2008). E-Governance Services Through Telecenters: The Role of Human Intermediary and Issues of Trust. *ITID, 4*(1), 19-35.

Ravishankar, M. N. (2013). Public ICT innovations: a strategic ambiguity perspective. *Journal of Information Technology, 28*, 316–332.

Roth, W.-M. (2007). The ethico-moral nature of identity: Prolegomena to the development of third-generation cultural-historical activity theory. *International Journal of Educational Research, 46*(1), 83-93.

Saeed, K. A., & Abdinnour, S. (2013). Understanding post-adoption IS usage stages: An empirical assessment of self-service information systems. *Information Systems Journal, 23*(3), 219–244.

Sein, M. K. (2011). The "I" between G and C: E-Government Intermediaries in Developing Countries. *The Electronic Journal of Information Systems in Developing Countries, 48*(0).

Sein, M. K., & Furuholt, B. (2012). Intermediaries: bridges across the digital divide. *Information Technology for Development*.

Sorrentino, M., & Niehaves, B. (2010). *Intermediaries in E-Inclusion: A Literature Review* Paper presented at the 43rd Hawaii International Conference on System Sciences, Hawaii.

Sun, J. (2012). Why different people prefer different systems for different tasks: An activity perspective on technology adoption in a dynamic user environment. *Journal of the American Society for Information Science and Technology, 63*(1), 48-63. doi:10.1002/asi. 21670

Vygotsky, L. (1978). *Mind in Society*. Cambridge Ma: Harvard University Press.

Vygotsky, L. S. (1981). The genesis of higher mental functions. In J. W. W. (Ed.). (Ed.), *The concept of activity in Soviet psychology.* New York, : Sharp.

Watkins, J. (2010). Intermediaries and End-users in Telehealth and Education. *Communication, Politics & Culture, 43*(1), 108.

Watkins, J., Tacchi, J., & Kiran, M. (2009). The Role of Intermediaries in the Development of Asynchronous Rural Access. *Universal Access in Human-Computer Interaction. Applications and Services*, 451-459.