

# **EXTENDED ABSTRACTS**

## **IFIP 9.4 ONE DAY WORKSHOP**

### **THEORISING DEVELOPMENT AND TECHNOLOGICAL CHANGE**

*London School of Economics*

*Wednesday 26th May 2010*

*A318, in the Old Building<sup>1</sup>*

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<sup>1</sup> Directions are to be found here: [http://www2.lse.ac.uk/mapsAndDirections/LSE\\_CampusMap2010.pdf](http://www2.lse.ac.uk/mapsAndDirections/LSE_CampusMap2010.pdf)  
<http://www2.lse.ac.uk/mapsAndDirections/howToGetToLSEZoom.aspx>  
<http://www.multimap.com/maps/?zoom=16&countryCode=GB&qs=WC2A2AE>

## Session 1: Abstracts

### *‘Theorising Context for Health Information Systems: An Actor-Network Approach’*

*Geoff Walsham, Judge Business School, University of Cambridge*

The provision of good public health systems is widely recognised as vital to the so-called developing countries, particularly for the poorer sections of the population. Health information systems (HIS) are seen as an essential underpinning of this provision, but the development and effective use of HIS involves heterogeneous networks of people, technology, standards, institutions, processes etc. Actor-network theory (ANT) is one approach to conceptualising such networks and, in particular, to understanding the meaning of ‘context’ for public health IS.

Earlier work on context with respect to information technology in developing countries (Avgerou and Walsham 2000) theorised it at three levels: organisational, sectoral and wider contexts, the latter including national and regional levels but also international policy contexts such as those provided by the World Bank. In the spirit of the ‘flat ontology’ of ANT, I will argue that this multi-level separation needs to be revisited. We need to trace the associations between a fuller set of network elements in particular localities and across multiple levels. For example, what happens with respect to HIS standards at the WHO in Geneva may affect and be affected by what happens in terms of data collection and analysis in a district in the Indian state of Orissa.

The abstract notion of using ANT to theorise context for HIS can be illustrated by work in India on a State readiness matrix. This matrix has summary elements concerned with technology readiness (e.g. software availability, internet access, data completeness), human capacity readiness (adequacy of training, regularity of report generation, advocacy on information for action), and institutional readiness (HIS budgets in place, frequency of data analysis carried out, involvement of programme management). Although implemented at State level, the various network elements are connected to elements at other levels such as international, national, district and block levels. For example, software availability in a particular State may be dependent on a crucial element of international funding. The adequacy of training in a State may be inextricably linked to institutional training mechanisms at district and block levels. Change programmes need to address all of these elements of ‘context’ holistically and over extended time periods.

#### Reference

Avgerou, C. and Walsham, G. (2000), ‘Introduction: IT in Developing Countries’ in *Information Technology in Context: Studies from the perspective of developing countries*, Ashgate Publishing, Aldershot, pp 1-8.

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# *Taking into account context in IS in developing countries research*

*Chrisanthi Avgerou (LSE)*

Context is a distinguishing characteristic of IS studies in developing countries and we need to discuss within the ISDC research community the theoretical and methodological approaches through which we can address it effectively. I will attempt to identify some epistemological features of contextualist research. I will start with a brief overview of the variety of contextualist research. I will then argue that we need to preserve theoretical plurality, but we should aim at the development of awareness of the particular insights gained from different contextualist theoretical approaches. Finally, I identify two major contentious issues in contextualist research.

IS studies in developing countries vary in the way they consider context as follows:

- a) The kind of context considered relevant for the study of IS phenomena. IS research has been interested primarily in the social context and has highlighted the significance of various aspects of a social setting, such as culture, power, cognitive traits, normative mechanisms, economic mechanisms.
- b) The social entity or setting that is considered appropriate for a study. The unit of focus can be the microcosm of an encounter of a person with artefacts in the course of their everyday life; the micro-level social group of an organizational subunit or a formal organization; the macro-level social formation of an industry or a country; or a virtual social unit that may cut across conventional classifications of the levels of analyses of the social sciences.
- c) The time frame and the historical positioning of a study. Most IS research is concerned with relatively recent or ongoing experiences with IT innovation. It investigates what has happened for a period of time, or is happening now, and aspires to shape the future. Some research acknowledges the importance of historical continuity and explicitly study IS phenomena as formed in historically constituted contexts.
- d) The theoretical approaches that inform contextualist analyses. Theories that have contributed insights on the nature of context in IS phenomena include contingency models intended to inform technical/rational decision making, analytical approaches that reveal aspects of context that shape IS phenomena, and philosophical perspectives that elaborate a particular epistemological and ontological view of the social world.

Overall, contextualist IS research has drawn from at least four meta-theoretical frameworks: structuration theory, Actor Network Theory, organizational institutionalism, and Pettigrew's model of analysis. I would argue that we need to continue drawing from all of them, but in our research accounts we should make explicit the dimensions of context they reveal and reflect on what remains hidden. We would also need to consider other theoretical approaches used in development studies. We miss, for example, theoretical accounts of political economy, and this constrains the extent to which we can engage in some important streams of discourse on development. In effect, I believe we would benefit from a pluralistic theoretical debate in order to understand the multiple ways social context is implicated in IS innovation in developing countries.

Two theoretically thorny issues arise in contextualist theorising. The first concerns the linking of micro-situated with macro-level contextual analyses. In the IS field there is a theoretically rich stream on the nature of information systems as sociotechnical entities constituted through the interaction of socially embedded human beings with technology artefacts. But such studies tend to leave out of their theoretical gaze macro-societal processes that are implicated in IS phenomena. Several theoretical approaches have been used to elaborate on the macro-societal processes that are involved in IS phenomena, but their fundamental epistemological and ontological assumptions are often incompatible with the micro-situated approaches.

The second issue concerns the relativist character of contextual research. Attention to context reveals variation of IS phenomena which is related with different meanings and life experiences. Although it is theoretically possible to produce universalist theories to account for context in terms of overarching categories of essential sociotechnical structures, contextualist research in IS, as well as in all other social sciences tends to avoid generalising in terms of universalist theoretical constructs. Many feel uncomfortable with this, as it contradicts a fundamental ambition of western science. I believe this controversy should be an important area of debate for IS scholars.

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## ***Understanding and Theorising Development 2.0***

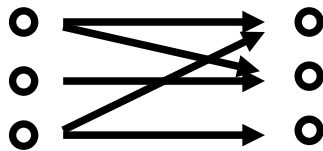
*Richard Heeks, Centre for Development Informatics, University of Manchester, UK*

In the last ten years, ICTs have diffused very rapidly into developing countries. In 1998, one of every 100 inhabitants in a developing country was an Internet user. By 2008, that figure was nearer to a sixth of the population – 15 per 100 – with a 21% annual growth rate. The rise for mobile phones has been even greater: the number of subscriptions was equivalent to 2% of the developing world's population in 1998. Ten years later in 2008, that figure had risen to 55%, with a 26% annual growth rate. Allowing for shared usage, estimates are that 80% of DC populations are mobile phone users.

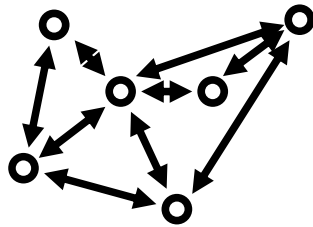
Chrisanthi Avgerou points out that little attention has so far been paid to the disruptive, transformative potential of ICTs in development. But perhaps the rapid diffusion of the technology means this potential is now starting to be realised, creating some signs of "Development 2.0": an ICT-enabled transformation of development processes and structures that can be recognised and researched.

Turning first to transformative development models, at least three can be identified:

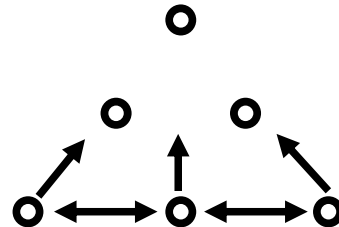
### Direct Development



### Networked Development



### Grassroots Development



- Direct development: delivering resources, delivering services without the intervention of traditional development actors; where those resources and services can be digitised. E.g. Kiva, MYC4, Bhoomi.
- Networked development: development that occurs neither solely through the state and similar agencies nor through the market, but through a mesh of actors and institutions that are connected and can act together through ICTs. E.g. the crowdsourcing of txteagle, and the crowdvoicing of Belo Horizonte's e-participatory budgeting.
- Grassroots development: development that occurs from within poor communities, as a result of ICT-enabled empowerment. E.g. . . . any suggestions!?

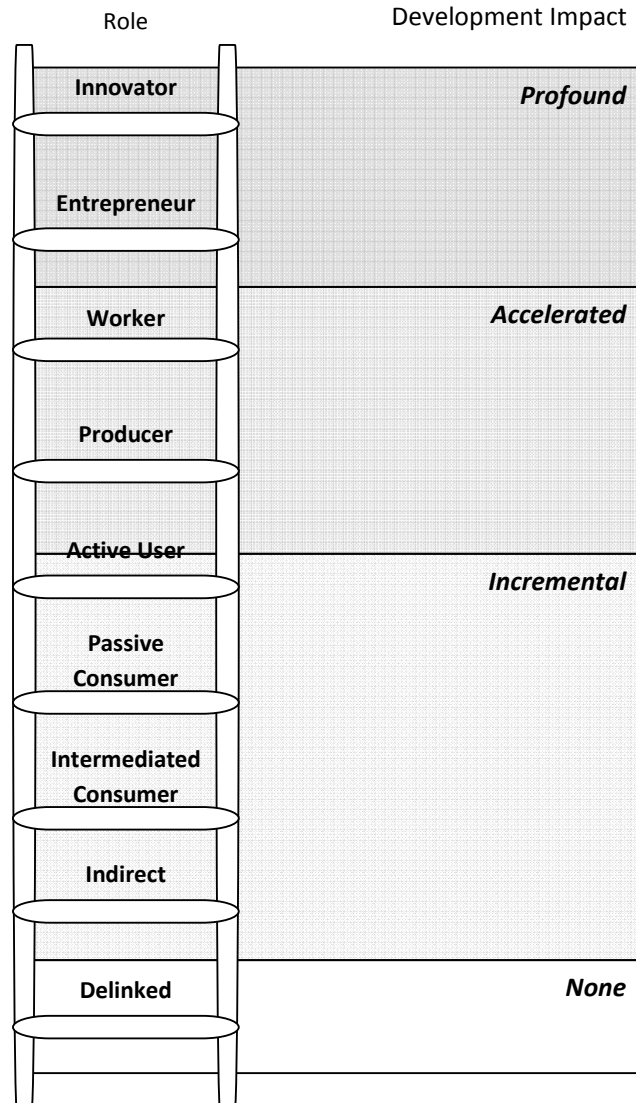
These models, in turn, can be seen to have various developmental impacts such as:

- Connecting the excluded: providing information and other livelihood assets including social capital that were previously unavailable.
- Disintermediation: cutting out the gatekeepers who prevent access to resources and services, or who charge rents for such access.
- Digital production: enabling those in low-income communities to become producers of digital content, and to develop ICT-based productive livelihoods.
- Digital innovation: enabling those in low-income communities to appropriate technology to such an extent that they start to do new things with it.
- Collective power: enabling communities to bring the power of the group to bear in the service of economic or socio-political agendas.

Of course, we may discuss both the extent to which these new models and impacts are yet seen; and the extent to which they are transformative – Development 2.0 as opposed to Development 1.5 or just Development 1.1. However, if one accepts that new ICT-enabled development models are emerging or will emerge – as they did in business and commerce in the global North in the 1990s – then there will be a question of how to theorise Development 2.0.

Mark Thompson suggests looking to development studies as a basis for this theorisation. If we do so, then perhaps we can think of separately theorising the models and the impacts of Development 2.0. To understand the models, perhaps the work seeing development in terms of complex adaptive systems will help; at least in understanding the value that ICTs have to offer in reconfiguring systemic connections.

To understand the impacts, we can build on the growing work – not least by a number of those attending this workshop – relating ICTs and Sen's ideas of capabilities. One possible further move here is to understand the potential capabilities and actual functionings that ICT enables in terms of the livelihood roles that those in poor communities are able to undertake. We could characterise these in terms of a "role ladder", on which each succeeding step represents an expansion of capabilities.



## Session 2 Abstracts

“None but ourselves can free our minds” – Development, Technological Change and Escaping the Tyranny of Direct Impact’

Dorothea Kleine

ICT4D Collective/UNESCO Chair in ICT4D

Department of Geography, Royal Holloway, University of London

Thank you for organising this session – I am delighted to be here. These are exactly the kinds of interdisciplinary sessions, workshops and conversations we need more of in our field.

In my own contribution today, I will first briefly state some key points framing my own thinking, then lay out the argument of this short thought piece and finally, relate this to the theme of context. This thought piece draws on a paper that has been recently submitted to the Journal of Ethics in Information Technology.

I am a geographer and work at both the UNESCO Chair in ICT4D and the Centre for Developing Areas Research at Royal Holloway, University of London. So I teach, among other things, development theories. The various development approaches I teach on, do have at least one thing in common – they are all deeply normative.

Given that most development approaches seek improvement of some sort, this is not surprising. What is, however, deeply disturbing, is how proponents of some approaches are not explicit about, or even refuse to admit, their normative basis. For example, we live in a world where, as Michael Watts (2005) argues, everything is turned into a commodity, including say, in our own field, knowledge and ideas into intellectual property. This means economic discourses tend to be dominant, and thus considered “mainstream”, but this does not make them non-normative.

It is startling that econocentric approaches are still accepted as the orthodoxy. Firstly, we know that most human beings see economic resources as a means to an end, and only a minority believe they can provide happiness - a much more frequently cited human goal. Secondly, we know, at least since Meadows et al. 1972, that the economy depends on the environment, not vice versa. If anything, we should be environment-centric. The ongoing fixation with economic growth is intellectually misguided and practically dangerous - but institutionally very deeply entrenched.

So I argue that one ongoing job in the field of ICT4D is the constant deconstructing and critically reconstructing what people mean with the term “development”.

Another startling bend of logic concerns the notion of impact. It is now widely accepted that development should be understood as a process, not just an outcome. Clearly this would be an extremely complex process, never entirely predictable and influenced by literally countless variables. Yet many development funders speak of development impact as though linear causal connections could be drawn between process state A, a change in a small sub-set of variables - and then process state B – often within a few years. This seems extremely unlikely.

This debate around impacts is deeply relevant to ICT4D, and Robin Mansell (2006) and others have drawn attention to it. Technological change has led to transformative change in individual’s lives, yet on the other hand, when funders ask ICT-related projects to show specific direct impact, many of them struggle with the transversal and multi-use nature of these technologies. So the ICT4D field in particular has a strategic interest to further our understanding of development as a complex process, embracing more holistic and systemic approaches.

The capability approach offers an alternative to both econocentric and linear impact thinking. Sen’s approach stresses people’s freedom to choose the lives they have reason to value. And this is

broadly where my own understanding of development sits. While this approach has been enthusiastically embraced by many scholars and practitioners, at least two key stumbling blocks to it becoming more widely used in development practice remain. The first is uncontrollability: the structure of the 'development industry' is such that funders tend to be persuaded to commit resources based on the promise of pre-determined impacts, not by a promise that people will be empowered to make much less predictable choices of development outcomes.

The second is practical applicability: even if one were to accept choice as the means and principal end of development, as Sen does - how can the conceptual richness of this approach be operationalised in development planning, implementation and evaluation?

Several scholars, including e.g. Garnham (2000), Mansell (2002), Madon (2004), Gigler (2004) Johnstone (2007), Zheng (2007) and Oosterlaken (2008) have made the connection between the capability approach, communications, ICTs or ICT4D. In a different paper (Kleine 2009), I have laid out a framework, which I call the Choice Framework, which translates the capability approach to a meso-level which can be used for ICT4D research and practice. It draws on empowerment approaches and takes elements from livelihood approaches.

Broadly, the Choice Framework consists of four elements. Social structure, individual agency, choice and development outcomes. Based on their portfolio of 10 resources, individuals navigate social structures in a process to achieve choice towards their own development outcomes. I can't go into greater detail here but am happy to explain in questions or over coffee. The key point is that it tries to replicate the holistic, and open-ended process-nature of Sen's approach.

There are three key ways in which the Choice Framework can be used in analysing technology:

*a) Deconstructing embedded ideologies and analysing goals*

Ideas and ideological principles (e.g. hierarchy, democracy, individualism, collective action etc.) are embedded, explicitly but more often implicitly, in every technology. Lessig (2000) and Wajcman (2004) and many others have written about this.

So for example, a telecentre in rural Chile providing free internet access is a bundle of technologies which have ideological principles such as social inclusion, access to information as a public good, democratic access and multi-purpose use according to individual's choices embedded in it. This is broadly compatible with a development approach centered around freedom of choice. Telecentres, whatever else we might want to say about them, leave a wide range of uses open to the individual.

As part of my research in Chile (Kleine 2007) I encountered not only telecentres, but also looked at the e-procurement system *Chilecompra*. Upon analysis, it became clear that the ideological principles it was based on were an open-market economy, transparency and maximising competition between vendors. Local public servants operating the system in the name of the local community of tax payers exercised choice – for this community of tax payers. This choice was aided by the increase in transparency the system offered.

However, firstly, in a rural community, local microenterprises were excluded by the system because of their lack of access to technology and lack of skills. Secondly, the undue emphasis on price led to

price wars at the expense of quality, and actually reduced the choices that local public servants had. Indeed, it was not possible to translate certain aspects of the life that people wanted to live, like having local jobs and an intact environment, into these choices, because of the econocentric emphasis already written into the system.

Thus there was an increased risk that the predetermined direction the system was geared to was not sufficiently overlapping with the choices users would have made without the system.

## *2) Systemic Mapping*

The Choice Framework can be used as a map of a process. With it, the systemic influence of technology can be traced. Technologies can affect the resources which in the framework co-define a person's agency. They also can change the social structure which the individual has to navigate in order to reach the degree of empowerment which will let them achieve the desired outcomes. This is the indirect systemic influence of ICTs. I have shown this in some detail in the 2009 paper – it's also clearer there because you can see the visual representation of the framework.

## *3) Planning for Choice*

After having used the Choice Framework as a tool for analysis, the third way to apply it focuses on a pro-active use of it in development planning. This would mean in the field of ICT4D that firstly, what we are aiming for is broadly defined by the choices of users as to what lives they value. Secondly, the Choice Framework and other like it can be used as a mapping tool to identify at which points a socio-technological intervention might empower individuals. Thirdly, there needs to be an awareness that the technologies we are creating carry embedded ideologies within them which need to be subject to scrutiny. Users should at the very least recognise what choices have already been made for them if they choose to use a particular technology. Fourthly, the more users' choices will later be locked in by the technology, the more the users' choices must already be integrated in the design process. In the paper, I give an example of an action research project, Fair Tracing, where we tried to apply this through participatory design.

But before we can use the Choice Framework and other tools productively we need to start moving away from a simplistic understanding of impact. Bob Marley sang in Redemption Song – “emancipate yourself from mental slavery – none but ourselves can free our minds”. I think on this one, he was right.

Finally, we have been asked by the workshop organisers to say a few words on the theme “Context”:

In the Choice Framework, context appears in the structure element of the framework – in the time- and space specific existence of institutions, organisations, discourses, policies and programmes, informal and formal laws and indeed in technologies – their existence and use. These are

experienced very differently by different individuals. Also, as I will explain in a moment, context and process are linked.

Many human geographers see space and place as largely socially constructed, or at least socially framed. From a social constructivist perspective, there are always several contexts constructed in each space and time. These are then socially negotiated. This does not preclude action for social change since individuals may well agree on aspects of their “contexts” which they intend to change.

In Geography, there is also an interesting approach known as a relational view of space – you may know it. Doreen Massey (2005) speaks of space as “the product of interrelations”, the crossing of the trajectories of artefacts and people in a particular time-space, in their plurality and hybridity – This includes their histories and their implicated-ness in unequal power relations over space. By definition, a particular time-space can never re-occur, you can never step into the same river twice (Heraclitus). So from the perspective of a relational geography, replication of a context is epistemologically impossible.

And, to conclude, processes form part of contexts. Context is not the “bed” in which processes are embedded. Such a view would suggest that you can lift processes out of a given “local context” and replicate, scale-up, roll-out or whatever the typical industrial production term you want to use. Processes themselves shape and frame context and in so doing, become part of “context” themselves.

#### *References:*

- Garnham, N. (2000): Amartya Sen’s “Capabilities” Approach to the Evaluation of Welfare and its Applications to Communications. In Cammaerts, B. and Burgelmans J.C., *Beyond Competition: Broadening the Scope of Telecommunications Policy*, VUB University Press, 25-36.
- Gigler, B.-S. (2004): Including the excluded - can ICTs empower poor communities? Towards an alternative evaluation framework based on the capability approach. *Paper presented at Fourth International Conference on the Capability Approach*, Pavia, Italy, 5-7 September 2004.
- Johnstone, J. (2007): Technology as Empowerment: A Capability Approach to Computer Ethics. *Ethics and Information Technology*, 9, 73-87
- Kleine, D. (2007): Empowerment and the Limits of Choice: Microentrepreneurs, Information and Communication Technologies and State Policies in Chile, (unpublished PhD thesis), Department of Geography and Environment. London, London School of Economics and Political Science.
- Kleine, D. (2009) *ICT4What? Using the Choice Framework to Operationalise the Capability Approach to Development*, Proceedings of the IEEE/ACM International Conference on Information Technology and Development 2009, Doha, Qatar, 17-19 April 2009, available at: <http://www.ictd2009.org/documents/ICTD2009Proceedings.pdf>
- Madon, S. (2004) Evaluating the Developmental Impact of E-governance Initiatives: An Exploratory Framework. *Electronic Journal of Information Systems in Developing Countries*, 20(5), 1-13
- Mansell, R. (2002) From Digital Divides to Digital Entitlements in Knowledge Societies, *Current Sociology* 50(3): 407-26.

- Mansell, R. (2006) *Ambiguous Connections: Entitlements and Responsibilities of Global Networking*, *Journal of International Development* 18(6): 901-13.
- Massey, D. (2005) *For Space*, Sage: London
- Meadows, D., Meadows, D., Randers, J. and Behrens, W. (1972) *The Limits to Growth*, New York: Universe Books
- Oosterlaken, I. (2008): Product Innovation for Human Development; a Capability Approach to designing for the Bottom of the Pyramid. *Working Paper of the 3TU.Centre for Ethics and Technology*. Delft: Delft University of Technology.
- Lessig, L. (2000) *Code and Other Laws of Cyberspace*. New York: Basic Books.
- Wajcman, J. (2004) *Technofeminism*. Oxford: Polity Press
- Watts, M. (2005): Commodities. In: Cloke, P., Crang P. and Goodwin, M. (eds) *Introducing Human Geographies*, 2<sup>nd</sup> ed, Oxford, Hodder Arnold
- Zheng, Y. (2007): Exploring the Value of the Capability Approach for E-Development. *9<sup>th</sup> International Conference on Social Implications of Computers in Developing Countries*. Sao Paulo, Brazil.

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## ***‘What can Critical Theory and Capability Approach Learn from Each Other’***

*Yingqin Zheng and Bernd Stahl, Center of Computing and Social Responsibility, Department of Informatics, De Montfort University*

Critical theory and the capability approach are two of the theories that are highly relevant to issues of development the technological change. During the last decade critical theory (CT) has grown in influence in information systems research (Brooke, 2009; Stahl, 2008) for example from the perspectives of post-colonial influences (Maysandra et al., 2006), gender (Howcroft & Trauth, 2008), discourses and power relationships (Jackson et al., 2006). The capability approach (CA), in contrast, is less recognised and applied in IS research, although it has been making major contributions in the research and practices on human development,

e.g. poverty alleviation, gender equality, and democracy. In recent years the CA has been drawn upon to address technological implications for development, such as means and ends of ICT for development (Garai & Shadrach 2006), evaluation of ICT projects (Madon 2004), empowerment (Johnstone 2007), the global digital divide (Wresch 2009), social inclusion (Zheng & Walsham 2008), and theoretical exploration on applying the CA in e-development (Zheng 2009).

The main contention of the present paper is that CT and CA are similar in many respects. They both constitute schools of thought that are meant to make a difference - to improve individual and social lives; both are normative theories rooted in ethics; they share an interest in democracy, and both are concerned with the pursuit of “a good life”. They develop different streams of ideas to support freedom, empowerment and emancipation. Meanwhile, they differ in many aspects, including the specifics of their “commonalities”. It is thus a reasonable question to ask whether and in what ways these two approaches can learn from each other. This exercise should enhance our understanding of the strengths and weaknesses of both approaches, and help us explore whether the two can cross-fertilise, theoretically and methodologically, and generate implications in relation to ICT and development.

CT is used as a label for a rich body of theories which encompass diverse critical approaches and methodologies. Sen’s capability approach was intentionally left incomplete, and has been extended, enriched and applied by various scholars from diverse disciplines. This paper starts by providing overviews of both bodies of theories in relation to technology and development, then go on to compare their philosophical outlooks, conceptual constructs and methodologies. This comparison gives rise to a discussion about new avenues and tools for both research and practice on development and technological change.

## References

- Brooke, C. (Ed.). (2009). *Critical Management Perspectives on Information Systems* (1st ed.). Butterworth Heinemann.
- Garai, A. & Shadrach, B., 2006. Taking ICT to Every Indian Village: Opportunities and Challenges. Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=897910](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=897910) [Accessed February 23, 2010].
- Howcroft, D., & Trauth, E. M. (2008). The implications of a critical agenda in gender and IS research. *Information Systems Journal*, 18(2), 185-202. doi:10.1111/j.1365-2575.2008.00294.x
- Jackson, P., Gharavi, H., & Klobas, J. (2006). Technologies of the self: virtual work and the inner panopticon. *Information Technology & People*, 19(3), 219 - 243. doi:10.1108/09593840610689831
- Johnstone, J., 2007. Technology as empowerment: a capability approach to computer ethics. *Ethics and Information Technology*, 9, 73-87.
- Madon, S., 2004. Evaluating the Developmental Impact of E-governance Initiatives: An Exploratory Framework. *Electronic Journal of Information System in Developing Countries*, 20(5), 1-13.
- Mayasandra, R., Pan, S. L., & Myers, M. D. (2006). Viewing Information Technology Outsourcing Organizations through a Postcolonial Lens. In E. Trauth, D. Howcroft, T. Butler, B. Fitzgerald, & J. DeGross (Eds.), *Social Inclusion, Societal and Organizational Implications for Information Systems: Ifip Tc8 WG 8.2 International Working Conference*, July 12-15, 2006, ... Federation for Information Processing) (pp. 381 - 396). Springer.
- Stahl, B. (2008). *Information Systems: Critical Perspectives* (Routledge Studies in

Organization and Systems). Routledge.

Wresch, W., 2009. Progress on the global digital divide: an ethical perspective based on Amartya Sen's capabilities model. *Ethics and Information Technology*, 11(4), 255-263.

Zheng, Y., 2009. Different spaces for e-development: What can we learn from the capability approach. *Information Technology for Development*, 15(2), 66-82.

Zheng, Y. & Walsham, G., 2008. Inequality of what? Social exclusion in the e-society as capability deprivation. *Information Technology and People*, 21(3), 222-243.

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## Session 3 Abstracts

### *'Why we shouldn't theorize: radical empiricism, action research and development'*

*Don Slater, Dept of Sociology, LSE*

This little position paper argues that 'theorizing development' is a bad idea: theorizing development closes down the space for thinking and doing development. The connections between knowledge and practice that theory has traditionally promised – truth and validity; generalizability across situations; and reflexivity – are more likely to be secured by forms of radical empiricism or an action research orientation, both of which start from a commitment to the specificities and uniqueness of the social worlds we engage with, rather than a commitment to abstracting from them in the name of generalization. In the particular case of ICT and development, this also means that we cannot treat the worlds in which we intervene as 'contexts' that simply mediate the generalizable impacts of ICTs (which we regard as given objects with known properties). Rather – borrowing a language from material cultural studies, ANT and more ethnographically inclined media studies – ICTs and social worlds co-configure or mutually constitute each other, such that 'context' and 'content' are never separately identifiable, keep swapping places, and can only be specified at the level of empirical description, not theoretical abstraction.

The argument against theory is fairly straightforward and can be stated baldly for the purposes of a short paper. Insofar as we understand theories to be projects of specifying objects of knowledge, their interrelationships and ways of knowing both independently of the specific conditions in which they occur, then there are two clear problems. I will state both problems as political rather than epistemological issues:

Firstly, the very idea of theory aims at styles of generalization that have no commitment to the uniqueness of specific lives and persons. Its commitment is to abstraction and universality, to propositions that reduce lived relationships to an ostensibly shared essence. I'm not stating this case as a problem of truth (eg, an old postmodern argument against meta-narratives); rather, it as a problem of democracy and governance, or managerialism: Theory is committed to subsuming the particular within larger projects of control. Development bureaucracies love and need concepts that have universal domain in order to intervene and control processes across empires of extraordinarily diverse 'cultures' and 'societies' ('contexts'); and they love and need operationalizations, such as indicators and best practice

formulations, that can be indiscriminately applied. They ask that all specific social worlds fit themselves into these concepts (usually by answering standardized survey questions), and that these categories are disputed only at times of fairly large-scale paradigm shift.

This is clearly not an argument against analytical thought but rather against projects of thinking whose primary commitment is not to the worlds we are trying to understand but rather to the organizations that claim to act on their behalf. The second problem, however, is that the universalistic pretensions of what we understand as theory generally obscures these commitments. In presenting itself as capturing the truth or essence of development, theory generally brackets its own performativity, its role in constituting the worlds that it purports merely to describe. One has only to encounter the internalization of, say, Castells' stories about globalization and network society up and down a development project chain – from metropolitan offices and policy documents down through regional conferences and networks and deep into project proposals and interim reports from staff – to see how theory performs, and performs the production of a shared world of intelligibility in which development actions can be legitimated in terms of an abstract and universal story.

The idea of theory therefore immediately raises issues of political commitment and standpoint (and this is obviously equally true of theories that present themselves as 'critical' and oppositional). Do we reduce social worlds to 'contexts' into which we drop objects such as ICTs, and then trace their 'impacts'; or do we remain attentive to the complex and unpredictable ways in which social worlds remake and relearn themselves in their encounters with new objects, which they equally reconfigure and reconstitute in complex and unpredictable ways? Is the knowledge we produce committed to engaging with the specificities of these processes, and furthering what people seek to gain from them (how they want to develop); or is our knowledge designed to subsume these experiences within larger narratives that are committed to distributing impacts across an abstract social landscape? Can we find ways of learning across diverse experiences, conveying knowledges through dialogue between experiences rather than subsumption under theoretical 'universals'?

The paper will conclude by offering three strategies of knowledge production that have emerged in opposition to the project of theorizing, and which I will present through my own research experiences:

Firstly, radical empiricism: ethnography – including ANT approaches – generally follows a procedure of generating analytical concepts from the material at hand – the worlds we study and the ways the creators of those worlds understand them. One could say that ethnography generally makes up theory from scratch, all over again, in each new study. To the extent that research is driven by over-arching analytical categories, they are defined as so big and so empty (kinship, networks, reproduction) that they can be filled and overwhelmed by the categories deployed by the world under study. For example, in my own research I replaced the word 'media' with the empty concept of 'communicative ecology': the research can therefore be open to which (if any) communicative machines are understood as 'media' by particular people; analytically, my only commitment was to look at the social and material resources through which people connected, and then to ask which of these could be related to the desires of development agencies to make communicative resources produce development gains.

Secondly, a commitment to specificity rather than abstraction and to reflexive acknowledgement of performativity both logically entail something closer to action research

than to the production of theoretical structures that are then re-applied to the worlds from which they putatively arose. Knowledge is part of the production of social life, internal to 'development' processes, and this can be fully realized by regarding *all* participants in development as 'theorists' (or none of them).

Finally, as signalled above, there is a frankly urgent need to entirely rethink the very idea of generalization, which is really the central claim of theory. The desire to produce knowledge that is true irregardless of context and conditions is the *problem*. We are better off restating our aims in terms of how different social worlds can meaningfully interconnect – how they can learn from each other and transfer experiences, how they can enter into dialogues, debates and conflicts over concepts of development and how to achieve 'it'. The model of knowledge here is unashamedly ethnographic: can we place forms of knowledge that are external to the world that is being researched and development (eg, *my* analysis and reports) in a relationship of dialogue rather than propositional judgement with regard to the people we study.

Put very simply, there has long been an entirely correct perception that the North provides the theory, the South provides the data (and do so as the object of Northern interventions). Is it only by dropping the (northern) tradition of 'theorizing' that we can remedy this situation.

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## ***ICT in Developing Context(s)***

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It is widely recognized that information systems are constitutive elements of processes that link together different entities and locations, leading to compression of space, coordination in time, and globalization (Castells, 2000; Sahay et al., 2003). This paper seeks to develop a theoretical contribution to studies in this area by rethinking the notion of context and how it is handled in the IS and development studies literature (see Avgerou 2008: Avgerou & Madon 2004; Walsham 2001). The contention of this paper is that rethinking the notion of context has important consequences for methodology and conceptualising future studies. If we review current writing on ICT4D, as a provocation we may identify three related, though divergent, frameworks for understanding context. First, we can view developments in the theorisation of context as an increasing attention to and sophistication in its representation. Drawing on Huen (2009) this is a framework of out-contextualisation which has no endpoint as each new rendering of context can always be repositioned and displaced by yet further representations of context. Second, context can be framed as a consequence of discourse or philosophical commitments (see Avgerou, 2008). Both frameworks point to divergent representations of context and demonstrate that language and representation is important in setting out the possibilities of engagement with context and how it is to be recognized. Lewis and Mosse (2006) provide resources for a third framework considering context as consequent upon processes of development and it is this insight that we like to develop further.

We challenge ideas of a unitary logic of development and its assumptions of an explicit, or at least, implicit coherence of the content of a development project. In its place we suggest that both content and context are more fruitfully understood as multiple and provisional orderings which are, at best, partially connected. The methodological problematic is how to provide

accounts that both give voice to these partial orderings and show the processes of re-ordering that occur to produce unitary accounts of development commonly encountered and required by development agencies. Our proposal draws on Cooper and Law (1995) and argues for a combination of proximal (of the processes of development) and distal accounts (using the categories of development) that illustrate how content and context are outcomes of multiple (and often partial) reorderings that combine elements of stability and fluidity. The consequences of this theoretical rethinking of context are fourfold for studies of information systems research in global, international and cross cultural contexts.

First, we suggest that ‘the social and the cultural’ for want of better terms are always actively reworked in development to provide representations of context. These representations provide partial connections, shape the content of IS development projects, and may, as often as not, be used instrumentally. For instance, representing the poor as potential entrepreneurs reinforces ideas of social capital and the role of markets. They are though only partial representations. The well known M-PESA example shows that even though M-PESA is now considered as providing m-banking for the unbanked, its customers are drawn from the better educated and wealthier elements of rural Kenya (Mas and Radcliffe 2010). Second, how context (and content) is partially ordered requires a *reflexive* understanding of the processes of development. The framing of context derives both from the theoretical categories applied in development and the processes of that development. Third, as out-contextualisation alerts us to, there is no unitary position or representation available that will provide a definitive understanding of context (or of content). The framing of context is always partial and provisional and this conceptualisation shows the importance of looking for and recognising innovation and unintended consequence in every application of information systems in these settings. This is the remit of ethnography. Such an understanding suggests that the scaling up from specific and ‘successful’ projects is potentially much more complex than is sometimes thought. Indeed, to use Callon, the activities of disentangling the ingredients of success from the disorder of content and context are likely to leave little more than useful principles to keep in mind. Finally, this rethinking of context has methodological implications. Close ethnographic or detailed engagement is necessary to retrieve proximal accounts but attentiveness to reflexivity *also* requires a proximal perspective on the deployment and adjustments of distal categories in projects. In this way the macro can be understood as being part of and arising from the micro in ways that cut across and undercut these distinctions.

## References

- Avgerou, C., Information systems in developing countries: a critical research review, *Journal of Information Technology*, (23:3), 2008, 133-146.
- Cooper, R. and J. Law, Organization: Distal and Proximal Views. In S. B. Bacharach, P. Gagliardi and B. Mundell (Eds.) *Research in the Sociology of Organizations: Studies of Organizations in the European Tradition*. Greenwich, Conn., JAI Press. 1995, pp. 275-301.
- Huen, What is Context? An ethnophilosophical account *Anthropological Theory* (9:2), 2009, pp. 149-169.
- Mas, I and Radcliffe, D. Mobile Payments go Viral: M-PESA in Kenya, 2010, [http://www.microfinancegateway.org/gm/document-1.9.43376/Mobile%20Payments%20Go%20Viral\\_M-PESA%20in%20Kenya\\_Mas%20and%20Radcliffe.pdf](http://www.microfinancegateway.org/gm/document-1.9.43376/Mobile%20Payments%20Go%20Viral_M-PESA%20in%20Kenya_Mas%20and%20Radcliffe.pdf) .

## ***‘Unpacking the Politics of ICT4D: Modernity at the Expense of Political Liberty?’***

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The issue of politics in ICT4D is rarely debated on in the information systems field, yet one of the key instrumental freedoms proposed by Sen (1999) in his seminal book on development is political liberty for individuals. In addition, ICT4D initiatives are predominantly informed by a modernist philosophy, which in their effort to bring some material progress grants technological tools a predominant role, assuming that recipients are passive, and development can only be brought by those in a powerful position. This in itself is a political viewpoint, and thus politics are embedded in the design of ICT4D projects. Building on the five constitutive and instrumental freedoms introduced by Sen (1999), we discuss how far ICT4D projects are able to assist political liberty of the alleged beneficiaries, given that political liberties are constrained by wider institutional factors. We conclude by making a call for researchers to more critically examine the structure and intention of ICT4D projects.

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## **Session 4 Abstracts**

### ***Intermediate spaces in ICT4D aid: translating far-fetched ideas and facts***

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**Introduction:** Development is affected by foreign investment, international trade, remittances from migrant workers, price of raw materials and internal conflict and development aid (WRR, 2009). Here, I focus on development aid in Africa as context for the design and implementation of geographic information systems & infrastructures. The organizational field of development aid is a world-wide network populated by formal, “giving” and “taking”, national and multinational organizations manufacturing ideas and financing development, in which translation of ideas and (arte)facts—tax money, technology and knowhow—takes place.

Instead of engaging either with the “developing” or with the “developers”, I suggest that studying the *intermediate spaces*—the long and complicated translation chains of (far-fetched) ideas and (far-fetched) facts, from think tanks and donors in the North to “recipients” in the South—in the organizational field of development aid, can further advance ISDC research (Avgerou, 2008). Two concepts seem promising to understand the translation of ideas from distant think tanks to African organizations and of (arte)-facts, from distant

donors to African regional or national organizations: “myth” and “accountability”, respectively.

**Translation of (far-fetched) ideas – Myth:** In Homburg and Georgiadou (2009) we analysed the translation of the idea of a geo-information infrastructure (GII) from the USA to Africa, as a myth, after adapting Rottenburg’s (2006) heuristic tool of iterating processes of consensus and knowledge differentiation, depicted in Table 1.

		<b>Knowledge (facts)</b>	
		<i>Certain</i>	<i>Uncertain</i>
<b>Consensus on goal and means (values)</b>	<i>Complete</i>	4: ‘engineering challenge’ or ‘technical game’, focused on structured implementation	2: ‘research challenge’ or ‘theory game’, focused on gathering information, metrics, best practices
	<i>Contested</i>	3: ‘partnership challenge’ or ‘policy game’ focused on partnership building and negotiations	1: ‘deadlock’

Table 1: Iterating processes of consensus and knowledge differentiation (based on Rottenburg, 2006)

In a two-by-two grid, Rottenburg identifies four squares of an iteration process of translation, without a fixed order: any square can be used as a starting point. Square 1 constitutes a deadlock situation, in which is uncertain what kind of situation one is in, what the purpose of action is and what ambitions exist. In square 2 (‘research challenge’), the basic questions of square 1 are substantiated. Rottenburg refers to this process as ‘bluffing’, agreeing on a provisional definition or commonly-agreed upon facts (a so-called *denotative solution*, inspired more by the envisaged goal than by deep conviction). Actors must, however, move on to square 3 if they are to substantiate any meaningful form of cooperation, because, as Rottenburg states, “the verified scientific knowledge of [square] 2 does not necessarily include evaluative and prescriptive information” (Rottenburg, 2006: 272). Once the partnership challenge of square 3 has been completed (and an *evaluative solution* has been agreed upon), what remains is the actual implementation of a solution in a technical game under assumptions of complete consensus and certain knowledge: “the figures in this scene know what they want, and are aware of their respective capabilities; they only need to calculate how they can best realize their goals” (Rottenburg, 2006: 272). The GII bricoleurs in Africa rhetorically try to lift GII out of the deadlock of square 1, into the technical game of square 4. ‘Procedures’ receive priority. The attempt is made to move out of the deadlock of square 1 into the technical game of square 4 by arguing for suitable implementation methodologies. The urgency of the challenges policy makers face in Africa prohibits a move to the research game in square 2, while a move to square 3 by explicitly aligning the concept of GII with more dominant agendas (AISI), comes at an arguably large risk due to limited

funds mobilization for the geographic sector and the fear of being swallowed by the powerful ICT sector in Africa.

**Translation of (far-fetched) facts – Accountability:** Rottenburg (2000, 2006, 2009) is concerned with the translation of (arte)facts -- tax money, technology and knowhow -- from the North (project managers in donor country) to the South (project managers in recipient country), via expert consultants (usually donor country nationals). The empirical focus in his book *“Far-Fetched Facts: A Parable of Development Aid”* is the relationship between the German Development Bank as donor and manager of development aid and events unfolding as a water system project is managed between Tanzania and Germany and other sites. His thesis is that project managers of the donor country must construct a long chain of auditing and reporting which goes down from the ministry of finance of the donor country through the experts to the end of the chain situated in a concrete project in the South. This transfer has to be made in ways that can be accounted for and must appear predictable. Unpredictable consequences cannot be tolerated. Otherwise the experts in charge would be held accountable, a prospect that would discourage anybody from engaging in any development initiative. Thus experts are not held accountable for the results of their interventions, but for the appropriate execution of adequate procedures. Only procedural accountability counts, along with technical predictability. All participants to this game proclaim that not only the means, but also the ends to achieve them are universally given, are based on objective facts. So, *“universal models to improve the human condition cannot be explained by referring to the hegemonic power of the state. Universal models are sometimes backed by those whom James Scott [1998] would assume to be in resistance”* (Rottenburg, 2000, p. 145). All players including the beneficiaries agree to play a ‘technical game’ that is independent of local social and cultural frames of reference.

**Reflection:** Areas for further research on the translation of far-fetched ideas are spelled out in Homburg and Georgiadou (2009) and Georgiadou and Homburg (2008). Following up on Rottenburg’s pioneering work on the translation of (arte)facts, we can ask how to make accountability in development aid more amenable to empirical analysis? Accountability and other concepts such as governance, networks, innovation are “magic” concepts (Pollitt and Hupe, 2009). Magic concepts have common characteristics:

*“1. They cover huge domains, have multiple, overlapping, sometimes conflicting definitions, and connect to very many other concepts. Thus a magic concept has large scope and high valency.*

*2. They have an overwhelmingly positive connotation; it is hard to be ‘against’ them. Part of this is usually a sense of being ‘modern’ and ‘progressive’ – often by replacing something which is supposed previously to have been dominant, but now to be out-of-date (e.g. networks replace bureaucracy and/or hierarchy). Therefore magic concepts have a high rhetorical value.*

*3. They dilute, diminish, obscure or even deny the traditional social science concerns with conflicting interests and logics (such as democracy versus efficiency, or the profit motive versus the public interest).*

*4. They are known by and used by many practitioners and academics. Thus a magic concept will feature frequently in official policy documents, the titles of reform projects and new units in both governmental and university departments. The concepts provide themes for academic conferences, subjects for seminars and titles for journal articles. In short, they become ‘buzz words.’”(p. 19-20)*

Magic concepts are hard to be pinned down and standardized. *“This being so, however, they can only fulfill explanatory functions if positioned, specified, operationalised and applied in systematic ways.”* (p.23)

Students of western polities define accountability as a social relationship *“between an actor [accountee] and a forum [accountor], in which the actor has an obligation to explain and to justify his or her conduct, the forum can pose questions and pass judgment and the actor can face consequences”* (e.g. Bovens, 2006, p. 31) and argue that accountability research should be on ex post facto governance processes rather than on ex ante inputs. Dimensions of accountability based on the nature of the forum, of the actor, of the conduct and of the obligation are articulated and perspectives for the assessment of accountability relations outlined (Bovens, 2006, 2008; Dubnick 2005).

Relevant questions for students of southern polities and ICT for development may include: How can accountability be defined along the long and complicated translation chains of ideas and facts in the field of ICT development aid? Who/what is the accountee, the accountor, the conduct and the obligation in ICT4D projects funded by development aid? What are dimensions of accountability and how can accountability be assessed? How do these understandings of accountability (and of other magic concepts) explain the success or failure of (G)IS and GII in developing countries?

## References

- Avgerou, C. (2008). Information systems in developing countries: a critical research review, *Journal of Information Technology* (2008) 23, 133–146. doi:10.1057/palgrave.jit.2000136
- Bovens, M. (2008). Does public accountability work? An assessment tool, *Public Administration* Vol. 86, No. 1, 2008 (225–242)
- Bovens, M. (2006). Analysing and Assessing Public accountability: A Conceptual Model, *European Governance Papers (EUROGOV)*. See <http://www.connex-network.org/eurogov/pdf/egp-connex-C-06-01.pdf>
- Dubnick, M. (2005). Accountability and the Promise of Performance: In Search of the Mechanisms, *Public Performance and Management Review*, 28, 3, 376 – 417 .
- Georgiadou, Y. and Homburg, V. (2008). The argumentative structure of spatial data infrastructure initiatives in America and Africa. In: *Social dimensions of information and communication technology policy : proceedings of the 8th International conference on human choice and computers HCC8, IFIP TC 9, Pretoria, South Africa, September 25-26, 2008* / ed. by C. Avgerou, M.L. Smith and P. van den Besselaar. Boston : Springer, 2008. ISBN 978-0-387-84821-1, pp. 31-44.
- Homburg, V. and Georgiadou, Y. (2009) A tale of two trajectories: how spatial data infrastructures travel in time and space. In: *The information society*, 25(2009)5, pp. 303-314.
- Pollitt, C. and Hupe, P. (2009). Talking governance: the role of magic concepts, Paper to be presented in the EGPA Study Group on Performance in the Public Sector, at the 2009 conference of the European Group for Public Administration, Saint Julian's, Malta, September 2-5, 2009
- Rottenburg, R. (2000). Accountability for development aid. In *Facts and figures. Economic representations and practices. Jahrbuch Ökonomie und Gesellschaft* 16, edited by Kalthoff, Herbert, Richard Rottenburg and Hans-Jürgen Wagener. Marburg: Metropolis, 143-173.

- Rottenburg, R. (2006). Code-Switching, or Why a metacode is good to have. In B. Czarniawska and G. Sevón, (Eds), *How Ideas, Objects and Practices Travel in the Global Economy*, (pp. 259-274), Copenhagen Business Press: Copenhagen.
- Rottenburg, R. (2009). *Far-Fetched Facts, A Parable of Development Aid*. MIT Press, Boston.
- WRR – Scientific Council for Government Policy (2010). *Less Pretension, More Ambition – Development Aid that Makes a Difference*. See <http://www.wrr.nl/content.jsp?objectid=5213>
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## ***‘Theorising development through institutional lenses: A study on the strengths and limitations of the Iranian cyberspace for empowering citizens’***

*Aghil Ameripour, Magda Hercheui, Roohollah Honarvar and Brian Nicholson*

Whether the Internet may foster more democratic institutions is under discussion in the academic literature (Ameripour et al 2010, Castells 2001; Feenberg 2009; Jones 1995; Rheingold 2000 [1993]; Steinmueller 2002). In some contexts, highly optimistic writers posit that the Internet opens spaces for public debates and citizen empowerment (Kahn and Kellner 2004); however, more pessimistic research identifies that governments also have instruments to control Internet interactions, especially, in the context of pseudo-democracies (Volpi 2004) like Iran (Alavi 2006, Ameripour et al 2010). A gap in the current literature exists regarding the mechanisms, practices and extent to which internet based activism may inculcate institutional change. Aiming to explore the interplay between Internet interactions and the institutional environment, this paper investigates and contrasts two case studies using Internet to organise social movements and citizen activism to challenge institutions in Iran. An institutional theory lens is used as the theoretical framework to make sense of the interplay.

Institutions are resilient social structures that are reproduced in society; in this research, institutions are understood as social behaviour that follow defined patterns and diffuse through settings and times (Berger and Luckmann 1967 [1966]; Scott 2001). Institutions are supported by three main systems: regulative (rules), normative (norms), and cultural-cognitive ones (such as models, taken-for-granted scripts and schemas) (DiMaggio and Powell 1991; Scott 2001; Scott and Meyer 1994). The structural nature of institutions implies that it is difficult to change resilient social structures (DiMaggio and Powell 1991; Scott 2001; Stinchcombe 1968).

Institutionalised social structures are supported by sanction (reward and punishment) mechanisms (Jepperson 1991; Scott 2001). From the perspective of regulative and normative systems, key social actors control mechanisms which foster the reproduction of institutions. For instance, judicial systems control mechanisms of punishment (such as imprisonment); and society imposes norms through enacting signals of disapproval (North 1998; Scott 1994). In the cognitive level, frames of mind control behaviour patterns (Berger and Luckmann 1967 [1966]; Scott 1994). Institutions are also supported by basis of legitimacy (Scott 2001), i.e. the perception of a society or a social group that defined actions are appropriate and in a

situation, within a social system (Suchman 1995). Then legitimacy depends on how actions conform to rules, norms and taken-for-granted frames of reference (Scott 2001). Conformity to institutions may bring legitimacy to social actors (Meyer 1992; Meyer and Rowan 1977).

Conflict between institutions and interests are behind institutional change. Within institutional theory, we especially focus on the notion of deinstitutionalization which is of particular relevance to policymaking as it focuses on the process by which the legitimacy of an institutionalised practice erodes or discontinues (Oliver 1992).

The first case brings the story of an Iranian news website has questioned the nomination of a Minister of Interior. The case shows that activists have used the Internet to challenge the nomination without destabilising established institutions. In 2008, the validity of the Honorary Doctorate of Law degree from Oxford University held by Ali Kordan was disputed in the Parliament during his confirmation hearings as the Minister of Interior. The news agency Alef ([www.alef.ir](http://www.alef.ir)), headed by Ahmad Tavakkoli, one of the MPs who had questioned the validity of degree, published that the University has no record of Kordan. Although the government issued warnings to the Iranian media regarding speculation about the case, Alef began a campaign asking readers to participate in the verification of the authenticity of the certificate. Alef readers provided evidence that confuted the degree and in the process enrolled a wider group of activists that demanded action from national institutions against Kordan. In spite of sanctions, Alef kept leading the action which generated protests and petitions all around the country. Finally, the parliament dismissed Kordan. The dismissal of Kordan may appear to represent a significant “victory” for citizen activists embracing the utopian view of the Internet as deterministically creating shared democratic spaces allowing citizens to challenge the state (e.g. Kahn and Kellner 2004, Rheingold 2002). However, drawing upon institutional theory (Jepperson, 1991; Scott, 2001; Suchman, 1995), this study argues that Alef’s protest emerged and evolved within the boundaries of Iranian institutions. In spite of fostering the impeachment, Alef has not challenged established institutions strongly. Alef is a legal website which does not normally have interest in confronting the government, and has been careful in complying with the Judiciary. Alef moderated audience contributions and maintained the decision on which messages were published. Indeed, many of the published contributions reiterated trust in Iranian institutions and questioned Kordan as an individual rather than the whole political and legal order. Still, Alef has challenged institutions when started questioning the validity of a document in spite of the formal warnings against this debate on the media. Alef could have complied with the warnings and avoid the confrontation, but the news agency continue with the campaign understanding they were working within a legitimate space.

The second case explores two Iranian social movements which rely on the Internet to organise and communicate. One campaign fights for women’s equal rights (the 1 million Signature Campaign), and another focuses on ending the practice of stoning, the punishment reserved to those who are condemned by adultery (Stop Stoning Forever Campaign). Both movements, studied in 2007, use Internet channels, such as websites, blogs and forums, to organise themselves and mobilise resources from society.

The feminist campaign collects signatures through door-to-door contact but depends mainly on the Internet to get access and mobilise people, and distribute educational information to women. For instance, the movement used the Internet to raise money to save a woman from the death penalty for having killed a man who allegedly was trying to rape her. Systematically, the feminist online spaces linked to the 1 million Signature Campaign

publishes photos, news and other contents that are banned from Iranian media with the argument that those material would cause political instability and even threaten the Islamic Republic.

The stop stoning movement combats the legislation which allows death penalty for stoning to those that are condemned by adultery. The punishment is written in the Iranian constitution, based on Sharia Law. The campaign does not oppose Sharia Law, but that the legal system faces problematic evidence of adultery. The Sharia Law demands that at least four people should witness the adultery with their own eyes, however this condition is not always observed by courts. The long term goal of the movement is to change the constitution to ban stoning; however in the short term the main objective is stopping people of being stoned.

The feminist and stop stoning movements contrast with Alef in that they challenge institutions, not individuals, and clearly confront the government. They go against ideas that are pervasive and resilient in Iranian society, such as the discrimination of women and the punishment by stoning. Both movements depend mainly on anonymous contributions, as contributors are afraid of being legally punished, and websites and blogs linked to these campaigns are registered in other countries, as the kind of content they diffuse is censored in Iran. Also both movements actively use Internet facilities to overcome the filtering that the Iranian government imposes on them. Iranian ISPs are forced to filter related URLs, in order to prevent citizens from reading their content. In these cases campaigners often provide access to this material via the use of proxies and gateways. Furthermore both movements observe a high degree of support among similar websites and blogs: in order to help each other to overcome the censorship tactics of the Iranian government, each interface gives links to newly formed websites that had changed their URLs as a result of censorships.

Alef and the activists' cyberspaces show examples on how Internet interactions may support movements to challenge institutions and powerful social actors which control institutional mechanisms. Alef has adopted a moderate challenge, as a registered Iranian news website, owned by a member of the parliament. However, it has challenge the government warning that the topic should not be discussed by the media, and in consequence Alef has faced the filtering of their content, a punishment mechanism controlled by governmental institutions. Alef has relied on anonymous contributions to check the authenticity of a document and tactics to overcome filtering during the period of the campaign against Kordan, but in the end the website has self-censored its content, delaying publication till the confirmation of their legal status. This demonstrates Alef's compliance with Iranian institutions as opposed to confrontation in the feminist and anti-stoning movements.

These radical campaigners have adopted tactics to overcome the Iranian censure, and depend on the anonymity of their members and sponsors as otherwise contributors and owners would be subjected to prosecution, imprisonment and even torture and death. Both movements however need to be related to institutions in order to advance their cause. The feminist campaign, for instance, has organised petitions against prosecution of women's rights defenders to be presented to the president; the stop stoning movement has a permanent dialogue with the Judiciary system to stop the execution of death sentences. In spite of their efforts and relevance, neither movements have been influential enough to change institutions; in addition, both movements have maintained their status as illegal Internet spaces from the Iranian institutions perspective.

Contrasting both case studies, Internet interfaces may enable some of the features of citizen empowerment identified by optimists (e.g. Kahn and Kellner 2004) but institutional mechanisms constrain this empowerment. Sanction mechanisms, supported by legal frameworks and technical procedures, frame in large degree the kind of manifestation citizens and Internet spaces are allowed without facing punishments. Furthermore, the perception on legitimate behaviour, supported by rules, norms and cultural-cognitive schemas, constrain Internet expressions. The paper thus advances our understanding of how the Internet has become an enabler of citizen empowerment and how institutional mechanisms may limit the potential use of the Internet for democratic manifestations in less democratic States.

In the theoretical level, this paper draws upon the case studies to discuss the development agenda in the domain of information systems. In spite of the potential of Internet spaces to permit the emergence and organisation of democratic movements, the institutional environment may impose clear constraints to citizen action. In a more generalised level, the resilience of institutions should be taken into account when planning for change in development projects. Understanding institutions and the related sanctions and legitimating mechanisms, related to established power structures may help to foresee social obstacles for changing social structures.

Key words: Iran, social media, Internet, democracy, institutions, institutional theory

#### References

- Alavi, N. (2006.) *We are Iran*, London: Portobello.
- Ameripour, A., Nicholson, B. and Newman, M. 2010. "Conviviality of Internet social networks: An exploratory study of Internet campaigns in Iran," *Journal of Information Technology* (forthcoming).
- Castells, M. 2001. *The Internet Galaxy: Reflections on the Internet, Business, and Society*, Oxford, New York: Oxford University Press.
- Feenberg, A. 2009. "Critical Theory of Communication Technology: Introduction to the Special Section," *The Information Society* (25:2), March, pp. 77-83.
- Jepperson, R.L. 1991. "Institutions, institutional effects and institutionalism," in *The New Institutionalism in Organizational Analysis*, W.W. Powell and P.J. DiMaggio (eds.), Chicago, London: The University of Chicago Press, pp. 143-163.
- Jones, S.G. 1995. "Understanding community in the information age," in *Cybersociety: Computer-mediated Communication and Community*, S.G. Jones (ed.), London, Thousand Oaks, New Delhi: Sage Publications, pp. 10-35.
- Kahn, R. and Kellner, D. 2004. "New media and internet activism: From the 'Battle of Seattle' to blogging," *New Media & Society* (6), 87-95.
- Oliver, C. 1992. "The antecedents of deinstitutionalization," *Organization Studies* (13), pp. 563-588.
- Rheingold, H. 2002. *Smart Mobs: the Next Social Revolution*, Cambridge, MA: Perseus Publishing.
- Rheingold, H., 2000 [1993]. *The Virtual Community: Homesteading on the Electronic Frontier* (revised edition), Cambridge, MA: MIT Press.
- Scott, W.R. 2001. *Institutions and Organizations* (2<sup>nd</sup> edition), Thousand Oaks, London, New Delhi: Sage Publications.
- Steinmueller, W.E. 2002. "Virtual communities and the new economy," in *Inside the Communication Revolution – Evolving Patterns of Social and Technical Interaction*, R. Mansell (ed.), Oxford: Oxford University Press, pp. 21-54.

Suchman, M.C. 1995. "Managing legitimacy: strategic and institutional approaches," *Academy of Management Review* (20:3), pp. 571-610.  
 Volpi, F. 2004. "Pseudo-Democracy in the Muslim World," *Third World Quarterly* (25:6), pp. 1061-1078

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## ***'Identifying The Complex Nature Of Information Systems Innovation'***

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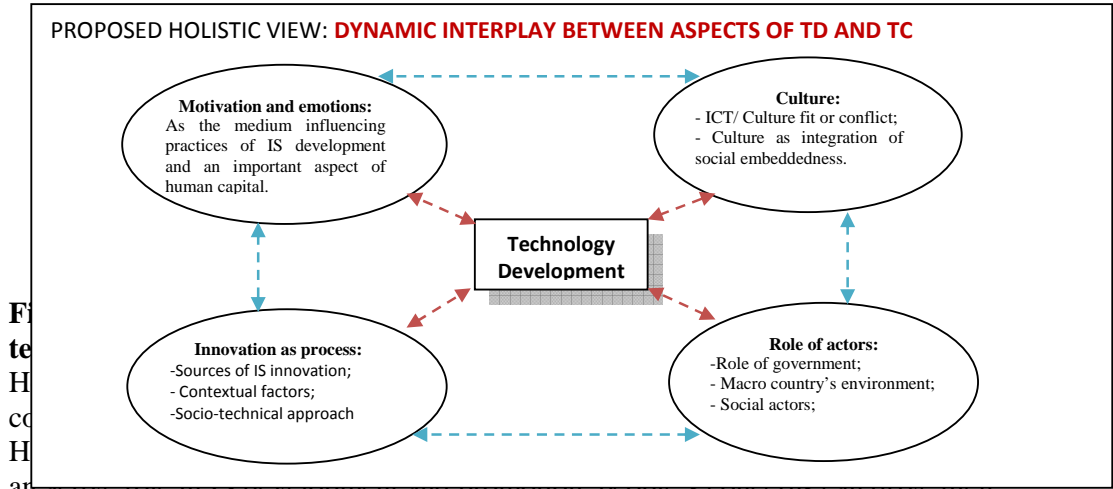
Although innovation has been an object of attention to many scholars at least from the time of Marx and Schumpeter, the variety of approaches looking at factors influencing their development shows that the area still lacks a common consensus and cognitive map. The need for this common dialog has been identified by those looking for greater interactions between IS and organizational studies (Orlikowski & Barley, 2001) and those suggesting greater attention to the role of human agency and emotions in technology-centered research (Avgerou & McGrath, 2005; Orlikowski & Barley, 2001; Gopal & Prasad, 2000). We identify four main approaches that are widely used to describe different aspects of IS innovation development (table 1).

<p><b>Innovation as process:</b>  <i>Contextual Factors</i> - 2 approaches:          1 Ein-Dor et al., 1997; Heavin et al., 2003; Heeks, 1999; Trauth, 2000: national ICT success builds on certain 'standard' common factors: demographics, culture, national and enterprise policy and individual quality of people. This considers the transfer and diffusion (Avgerou, 2008) approach on IS according to which there is one best practice and way of IS development (Davis; Rogers; Rose &amp; Straub; Al-Gahtani).          2 Avgerou, 2003; 2008; 2009; Ciborra &amp; Lanzara, 1994; Silva &amp; Westrup, 2009; Walsham &amp; Sahay, 2006; Miscione; Orlikowski; Silva; Madon; Braa et al: assume historical path-dependency, social embeddedness and plurality of successful national ICT development models.</p>	<p><b>Motivation and Emotions:</b>  <i>Motivation studies</i> - 3 main areas (Bernard et al., 2005)          1 Aldelfer, Maslow, Herzberg: self-actualization in the workplace.          2 Lewin, Vroom, Porter &amp; Lawler: theories surrounding levels of aspiration.          3 Murray, McClelland &amp; Atkinson, Weiner, Rosenberg, Rotter: works relating to achievement motivation.  <i>Emotions in IS innovation</i> -          Ciborra, 2002: we always act within an emotional medium (which can influence the introduction of new technology).          Avgerou &amp; McGrath, 2005: the course of IS innovation is realized through emotionally charged behavior.          Harris et al., 2003; Bailur, 2007; Sauer, 1999: people's concerns can drive their participation in the technological change process.          Barrett &amp; Walsham, 1999: concept of existential anxiety influencing IT acceptance.          Metiu, 2006: destructive emotions leading to group disengagement in virtual teams.</p>
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<p><b>Role of actors:</b>  Studies from the “innovation as process perspective” see the role of government as a necessary actor for IS creation (in the form of government intervention, creation of special government agencies and tax system providing support for IS industry, establishment of state sponsoring venture capital funds, strong IT education, etc.). Kogut, 2003, 1997; Archibugi &amp; Lundvall, 2001; Hall &amp; Soskice, 2001: the macro country environments act as a manipulator of the micro level’s incentives and knowledge how to work, coordinate and share practices. Lamb, Kling, 2003: social actors of IS have complex and multiple roles while adopting, adapting and using IS within complex social context.</p>	<p><b>Culture:</b>  Straub et al., 2001: culture as the source of resistance for innovation transfer. Leidner &amp; Kayworth, 2006: national culture can have values &amp; behaviors contradictory to those required for ICT. Walsham, 2001; Rohitratana, 2000; Sahay, 1998; Zakaria et al., 2003: universal approach contrasts with variety of distinct historically formed collective behaviors. Westrup et al., 2003: a concept of culture which is dynamic and emergent, ‘constantly being maintained and changing’.</p>
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**Table 1: Approaches to IS innovation development**

We argue that as IS innovation has a very complex nature, the holistic approach showing a dynamic interplay between different aspects of technological change and development should be applied in research studying IS innovation (see figure 1). When the above approaches are taken separately, they fail to explain the whole IS innovation phenomenon. Moreover, separate approaches tend to neglect the important dynamic interplay between the factors influencing IS development. For example, various studies on the context of IS creation, be they rooted in the “best practice” or “social embeddedness” paradigms, recognize the role of government and its interventionist policy as important conditions for ICT success and institutionalization.



an active role in IS development and promotion, people’s concerns can drive their participation in innovation and influence the success of technological change (for example, in the form ‘user resistance’).

For these reasons we argue that when studies of the phenomenon of IS innovation are restricted to separate approaches they are ineffective and fail to describe the complexity of the phenomenon. We therefore propose that research on technological change and development should take a more holistic view. Early observations from our case study of local computer networks (LCNs) development in Belarus provide a good illustration. These

LCNs were created and administrated by thousands of individual citizens despite an otherwise hostile context of unfavorable government policy and a lack of organizational financial investment. The questions we ask in this particular research are:

- *Why and how did the Belarusian LCN appear in a context unfavorable from the generally- accepted view?*  
... and, more generally,
- *What motivates people from developing countries that often lack a favorable context and sustainable government policy in ICT development to create technological innovation?*

The data collected during the pilot study in the field identified the complex nature of innovation creation in Belarus. In particular, the following multiple factors were identified:

- Contradictory government policies,
- Dissonance between high educational and cultural levels and low economic capital,
- The important role of emotions and motivations along with the social communication within and competition between LCNs.

We believe that the combination of the approaches described above can add a dynamic perspective to future research in the field and give a more comprehensive description of the phenomenon of technological change. We see each approach as being complementary and their combination likely to lead to more effective innovation or sometimes ineffective innovation where these factors act negatively. To give one example, motivational drivers could add to the appearance of the *moment of discursive consciousness* of social actors (Giddens, 1986). This mobilizes their efforts and focuses their thoughts on responses to problems and thereby diminishes their anxiety and brings about social and technological change.

Further research of the phenomenon developing this case study at Belarus is planned as part of a PhD study.

### **References:**

- Alderfer, C. P. An empirical test of a new theory of human needs. *Organizational Behavior and Human Performance*, 8, pp. 142-175, 1969.
- Avgerou, C. The Link between ICT and Economic Growth in the Discourse of Development, Proceedings of the 7<sup>th</sup> International Conference of IFIP WG 5.0, Korpella, M., Montealegre, R., and Poulymenakou, A., Klumber Academic Publishers, Oxford: Oxford University Press, 2003.
- Avgerou, C. Information systems in developing countries: a critical research review, *Journal of Information Technology*, Volume 23, Number 3, pp. 133-146., 2008.
- Avgerou, C. and McGrath, K. Rationalities and emotions in IS innovation. In: Howcroft, Debra and Trauth, Eileen M., (eds.) *Handbook of critical information systems research: theory and application*. Edward Elgar, Cheltenham, UK, pp. 299-324, 2005.
- Bailur, S. Using Stakeholder Theory to Analyze Telecenter Projects, *Information Technologies and International Development* 3(3), pp. 61–80, 2007.
- Barrett, M. and Walsham, G. Electronic trading and work transformation in the London Insurance Market, *Information Systems Research*, **10**(1), pp. 1-22, 1999.
- Bernard, L. C., Mills, M. E., Swenson, L., & Walsh, R. P. An evolutionary theory of human motivation. *Genetic, Social, and General Psychology Monographs*, 131, 129-184, 2005.
- Ciborra, C. U. *The Labyrinths of Information: Challenging the Wisdom of Systems*, Oxford University Press, Oxford, 2002.
- Ciborra, C. and Lanzara, G.F. Formative contexts and Information Technology: Understanding the Dynamics of Innovation in Organization, *Accounting, Management and Information Technology*, (4:2), p.61-86, 1994.

- Ein-Dor, P., Myers, M.D., and Raman, R.S. Information Technology in Three Small Developed Countries, *Journal of Management Information Systems*, (13:4), pp. 61-89, 1997.
- Giddens, A. The constitution of society: Outline of the theory of structureation, University of California Press; Reprinted edition, 1986.
- Harris, R.W., Kumar, A. and Balaji, V. Sustainable Telecentres? Two Cases from India, in S. Krishna and S. Madon (eds.) *The Digital Challenge: Information technology in the development context*, Aldershot: Ashgate, pp. 124–135, 2003.
- Heavin, C., Fitzgerald, B. and Trauth, E.M. Factors Influencing Ireland’s software Industry: Lessons for Economic Development Through IT. Proceedings of the 7th International Conference of IFIP WG 5.0, Korpella, M., Montealegre, R., and Poulymenakou, A., Klumber Academic Publishers, Oxford: Oxford University Press, 2003.
- Heeks, R. B. Software strategies in Developing Countries, *Communications of the ACM*, (42:6), pp. 15-20, 1999.
- Herzberg, F. *Work and the Nature of Man*. Cleveland, OH: World Publishing, 1966.
- Lamb, R. & Kling, R.: Reconceptualizing Users as Social Actors in Information Systems Research, *MIS Quarterly*, vol.27, No.2 (Jun., 2003), pp. 197- 236.
- Lewin, K. *A Dynamic Theory of Personality*, New York, McGraw-Hill, 1935.
- Lewin, K. *The Conceptual Representative and the Measurement of Psychological Forces*, Durham, N.C.: Duke University Press, 1938.
- Maslow, A. *Motivation and personality*. New York: Harper & Row, 1954.
- McClelland, D. C. *The achieving society*. New York: Van Nostrand Reinhold, 1961.
- Metiu, A. "Owning the Code: Status Closure in Distributed Groups", *Organization Science*, May 2006, Vol. 17, Issue 4, p. 418-435, 2006.
- Orlikowski, W. & Barley, S.: Technology and Institutions: What Can Research on Information Technology and Research on Organizations Learn from Each Other? *MIS Quarterly*, vol.25, No.2 (Jun., 2001), pp. 145- 165.
- Porter, L. W., and E. E. Lawler. *Managerial Attitudes and Performance*, Homewood, Ill.: Irwin Dorsey, 1968.
- Sauer, C. Deciding the future for IS failures: Not the choice you might think, in *Rethinking Management Information Systems* in Galliers, B. and Currie, W. L. (eds.), Oxford University Press, Oxford, pp. 279-309, 1999.
- Silva, L. and Westrup, C. Information Technology for Development, *Information Technology for Development*, Volume 15, Issue 2, p. 59-65, 2009.
- Trauth, E.M. *The culture of an Information Economy*, Dordrecht: Kluwer Academic Publishers, 2000.
- Vroom, V. H. *Work and Motivation*, New York: Wiley, 1964.
- Walsham, G. and Sahay, S. Research on Information Systems in Developing Countries: Current landscape and future prospects, *Information Technology for Development* 12(1), pp. 7–24, 2006.
- Weiner, B. (1989). *Human motivation*. New York: Holt, Rinehart & Winston, 1989.
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