

CURRENT TOPICS

A New Research Programme on Information and Communication Technologies. The E-Society: Understanding the Restructuring of Practices and Institutions in the Digital Age

THE ECONOMIC AND SOCIAL RESEARCH COUNCIL

EDITOR'S NOTE *This is an advance notice of a new research programme, supported by Britain's Economic and Social Research Council (ESRC), investigating the restructuring of practices and institutions in the digital age. The call for applications is planned for November 2001; first projects are expected to commence in October 2002. The ESRC is currently preparing the recruitment of a Programme Director. Further information on the process will be published in due course and will be available on the ESRC's website at: <http://www.esrc.ac.uk/E-Society.htm>.*

Below is the text of the proposal on the basis of which the ESRC decided to fund a research programme in this area. This proposal was developed through a consultancy led by Professor William H. Dutton. Please note that there might be changes to the programme outline once the Programme Director is appointed. Contact: Angelika Hamilton, angelika.hamilton@esrc.ac.uk, with any comments or recommendations.

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1. Executive Summary

New information and communication technologies (ICTs), such as the Internet and wireless multimedia devices, are increasingly pervasive.¹ They are widely seen as a key element in broad changes in social structures and practices, such as the erosion of hierarchy and the rise of networked organisations.² For 15 years ESRC research on ICTs has challenged uncritical assumptions about the coming 'information society' or 'digital age' as an inevitable force for social progress.³ Deepening these understandings is even more important as the technologies advance and become ubiquitous. This programme will build on previous ESRC research on ICTs and provide fresh insights into enduring questions about the quality of our lives now and in the future. It will develop a critical, interdisciplinary analysis within an integrative framework. By informing policy and practice proactively, it will help people shape technology, institutions and practices in beneficial ways.

2. Programme Objectives

The central question addressed by the programme is how are institutions and practices being restructured in the digital age?⁴ This will lead to a focus on: (a) continuities and discontinuities in practices and institutions affecting households, firms, the media, public organisations, educational and service bodies, indeed the whole range of community, governmental, economic and cultural life; (b) the roles of technical, social and economic factors in shaping these patterns; and (c) the social, economic, ethical and regulatory implications of such restructuring. Growing interest in virtual communities, the new economy, e-commerce, digital government and online media, for example, suggests that these will entail changes in practices such as how people socialise, work, shop, obtain the news and receive commercial and public services. Hence no limit will be placed on the institutions or practices to be studied. The test will be whether projects have the potential for advancing theory or methods for the study of the central question, and in furthering three other key objectives for the programme, namely to:

- (a) focus critical, interdisciplinary theory and research on the restructuring of practices and institutions as people produce, utilise, consume and govern ICTs. An empirical perspective will inform debate over the opportunities and risks arising from the restructuring of practices and institutions across a wide range of technologies in all sectors of society. The programme will focus on emerging ICTs, but incorporate an historical perspective that explores patterns of continuity as well as change, and draws lessons from other erstwhile new technologies such as the telephone, videotex and cable;
- (b) develop new data and theoretical perspectives on key research questions, such as social inclusion, while fostering innovative quantitative and qualitative methodological approaches to social research on ICTs. New media often require new methods, as in the study of log files to understand Web use patterns, but the programme will also support proven ways of gathering empirical evidence from multiple vantage points, such as survey research, content analysis, case studies, participant-observation, ethnography, natural experiments. In all cases, a focus on change requires methods that enable observations over time, including historical case studies, longitudinal analyses of secondary data and panel designs for survey research;
- (c) ensure that results are effective in informing policies, visions, practices and research. This can be furthered by developing theory, concepts and data applicable to issues of policy and practice in multiple domains. Support will be provided to encourage dialogue between e-society researchers and the technical, policy and practitioner community, focusing on the future of technologies, institutions and practices.

3. Rationale for the Programme

3.1. *Why a Programme? Why Now?*

The production and use of new ICTs throughout society is supported by business, industry and government,⁵ but there is also evidence of growing 'digital divide' inequalities⁶ and doubts about the sustainability of rapid ICT growth, as highlighted by the recent 'dot-com crash' and concerns about the economic viability of next-generation mobile licences.

Technological change remains uncertain, and cannot be separated from social, economic, cultural and political change. Technology forecasts tend to focus on technical innovation, contributing to a poor track-record in expert predictions of technological change, as in early expectations of the telephone being used primarily for broadcasting, or that the Internet would fizzle out like CB-radio.⁷ Nevertheless, as ICTs have become more taken for granted, critical perspectives on their social and economic aspects have been marginalised by a focus on technical R&D. A more intensive and cumulative research effort focused on ICTs across different social settings is now needed, to deepen understanding of how people design, incorporate, adapt or reject technologies to reinforce or restructure practices and institutions.

3.2. Scientific Context

Social and economic aspects of ICTs have been studied by a variety of researchers and practitioners for over 50 years.⁸ This work ranges from early studies of interrelations between technology and society, to technology assessments and investigations of technology impacts, to more recent work on the social shaping of technology and the application of mainstream social science approaches to the study of new media. But the development of cumulative knowledge in this field has been hampered by its fragmentation across several disciplines, and rapid innovation that has changed technological contexts before knowledge could be consolidated. The e-society framework will overcome this fragmentation by focusing on the restructuring of practices and institutions tied to underlying processes of change in technologies and social relations.

3.3. Practical and Policy Context

Technology policy is central to national industrial policies and a key to the strategic plans of all kinds of organisation, from major firms and not-for-profits to home-based tele-workers. Public acceptance can facilitate changes in practice and policy needed to exploit a technology more effectively, but failure to understand and anticipate the problems as well as opportunities arising from a technology can undermine positive change, as when fears of unemployment tied to automation divert investment from ICTs that enhance job creation and productivity.⁹ Research taking a sceptical and empirical perspective on the many social and economic assumptions tied to technological change is thus of crucial practical significance.

3.4. Relevance and Contribution to ESRC's Thematic Priorities

A review of ESRC themes pointed out how interaction between technology and people now pervades all the Thematic Priorities.¹⁰ The Foresight exercise found that the 'pervasiveness of information management across every area of innovative opportunity makes ICTs particularly key to the economy and society more generally'.¹¹ Foresight has also initiated successive competitions for research on the social shaping of technology. In this context, an ESRC e-Society Programme provides a focus that can advance research on technology and people, inform policy and practice and build on the international networks and reputation that the ESRC has gained through ongoing support of social research on ICTs.

4. Profile of the Programme

4.1. *Research Areas and Topics: Conceptual Framework and Integrating Themes*

The programme's conceptual framework builds on a synthesis of ESRC research to focus on the restructuring of institutions and practices under four headings: the production, use, consumption and governance of ICTs.¹² Studies anchored in each area, and the interrelationships among them, will aim to identify cross-cutting patterns and themes that integrate the findings of individual projects. For example, users are also involved in production, and government has a crucial role not just in the governance of ITCs, but in the other three processes as well. This framework will help to ensure that the social analysis of technology is just as relevant at the early stages of design as when ICTs are in everyday use. It will encourage more cumulativeness of findings across technologies, institutions and practices, better integration across disciplines and the analysis of indeterminate social processes, rather than deterministic forecasts of the social impact of ICTs of a kind that have so often been wrong.

A key programme-wide task will be to identify integrating themes and concepts. These will emerge from e-society studies on the restructuring of practices and institutions, including studies of continuities and discontinuities in structures, and the nature and implications of forces facilitating and constraining change. Themes related to changes in structures and processes include networking, scale, standardisation, decentralisation and the erosion of boundaries. Themes related to their social implications include patterns of change in access, privacy, trust, identity, immediacy, dependence on ICTs and the geography of social relations. New research issues and integrating themes are likely to be identified as e-society research proceeds.

The programme will aim to incorporate projects centred under each of the four headings. The sub-sections below illustrate the range of questions and topics. While casting a wide net, the programme will select proposals for funding based on the project's likely contribution to the central question concerning the restructuring of practices and institutions.

4.1.1. Production. Social, cultural and political processes shape innovations in products, services and industries, including the structure of industry. This raises questions about production, such as: what practices and institutional arrangements facilitate and constrain how ICT designs are conceived, developed and brought rapidly into public use? How does industry restructure through the use of ICT-based capabilities such as e-commerce networks? How do different cultures and regulatory regimes impinge on the production of information and communication services? How can the UK knowledge and skills base be better balanced across regions, gender, age and other variables? What are the barriers to synergy from digital convergence? How is multimedia convergence through Internet, mobile and other channels shaped by the cultures, practices and economics of formerly separate media and information-production industries? How does convergence shape the underlying models of these industries? How do business models change when the primary product for exchange is information that can be replicated and redistributed at virtually no cost, e.g. by sharing popular music or scholarly journals over the Web?

4.1.2. Utilisation. The way technologies are used in service provision, management and work can reinforce or transform the structure, geography and processes of organisations, in which social and organisational change is inseparable from technological change. Key related questions include: are new forms of e-democracy practices and institutions emerging which affect citizen representation and public accountability? Are new technologies enabling fundamental shifts in the geography of institutions and organisational forms, e.g. in fostering the globalisation of networked firms and activities? How is this affecting productivity and the geography of employment? How do private firms and public services, such as education, compete with globally branded online suppliers? How far are people using ICTs to by-pass formal public services, such as by accessing online self-help? How do ICTs change the competitive landscape? How are they used to integrate commercial and public service processes in public-private partnerships? Are new structures emerging to help small and medium-sized enterprises (SMEs) and the self-employed to fully exploit ICT capabilities? How are ICTs used by not-for-profit organisations? What are the practices, structures and social ties of geographically dispersed virtual communities? Are decentralised, non-hierarchical organisational forms emerging? How do people employ e-mail, mobile-phone text messaging and other ICTs within complex processes of personal and social relationships? How do ICT-mediated relationships undermine or reinforce community?

4.1.3. Consumption. The focus on consumption is concerned with how people incorporate, adapt, domesticate, subvert, resist and otherwise shape how ICTs fit into the household, community, education, democratic processes and everyday life. This leads to questions such as: how do different cultures, genders, classes and ethnic, age and disability groups use ICTs? Is uneven access to ICTs fostering a new technological underclass and powerful cyberclass, thus reinforcing socio-economic divisions? Can greater equity and new forms of social cohesion be fostered? What are the social implications of the immediacy and proximity of online access to information, people and services, for instance in relation to information overload, social isolation and collective memory? Will the enhanced ability of producers to target specific audiences using ICTs help to inform more people better, or reinforce knowledge gaps? How, and with what implications, are central, regional and local governments using e-government capabilities? How does the growing use of ICTs in all sectors of education influence institutions and practices, such as how and where we learn? Are boundaries blurred or eliminated by ICTs being reconfigured in new ways, such as between 'office' and 'home', or in a demise of the 'public sphere'?

4.1.4. Governance. Studies of governance examine the political and social processes of control that regulate technology and balance competing values and interests, including the role of technological change in governance processes. Related questions include: what public policies and regulations best serve the 'public interest' in an e-society? Can governance keep pace with ICT-led changes in other institutions and processes? To what extent are ICTs creating a potential for power shifts in relations between citizens, public and private actors in local, regional and global governance, such as within a so-called 'e-Europe'? How far are national and regional regulatory mechanisms being eroded by transnational networks in areas such as surveillance, privacy, cybercrime and intellectual property

rights? Do multimedia networks increase centralisation or encourage more active citizenship through enhanced local democratic processes? How does electronic service delivery, such as NHS Direct, redefine the nature, regulation and perception of public services? How do ICTs affect competition and co-operation between localities and nations, such as in efforts to attract jobs and investment? Are voluntary and issue-based organisations moving into the democratic centre-ground via the Web? Can people who are ‘unwired’ to ICTs participate in an e-society? What forms of public control are being sought over ICT developments, such as Internet censorship or encouraging socially valuable ICT innovations?

4.2. Contributing Disciplines and Opportunities for Interdisciplinary Research

The e-Society Programme will bring sociologists, anthropologists, economists, policy scientists, social psychologists, historians and computer scientists together under a coherent interdisciplinary research umbrella. Intellectual synergy will be promoted by moving away from disciplinary perspectives towards the study of underlying processes. Collaboration and information exchanges would also be sought with other ESRC research activities, particularly those examining the contexts within which ICTs are becoming embedded, such as the Future Governance and Future of Work programmes. In addition, there would be scope to build on the EPSRC’s interest in technology and people, for example in extending funding partnerships such as PACCIT and IMI. Similarly, there may be opportunities to build a partnership with the AHRB, particularly in relation to multimedia developments. The programme would also help UK social scientists to exploit more fully the opportunities provided by EU-supported research, such as on the social shaping of ICTs through the Framework Programme, and application-oriented IT research supported by the Information Society Project Office.

4.3. Resource Needs and Implications

A key goal of the e-Society Programme is to develop and employ innovative methods of social research on ICTs, for which specific funding would be provided. The programme specification will encourage applications for a large-scale survey aimed at gathering a dataset capable of addressing questions on a variety of issues and technologies, for example the relationship between Internet use and social isolation.¹³ One project budget would be resourced at a level enabling it to incur the costs of such data collection. This will also provide baseline data for further longitudinal research in a second phase, which will better enable the researchers to address causal questions of change over time. In addition, facilities such as electronic networking will be provided to encourage co-operative work and cross-project collaboration.

4.4. Involvement of Users

The programme will engage actively with key policy and practitioner users from industry, including SMEs, government and not-for-profit groups. Users can be involved in research projects and various other activities, such as advisory committees, workshops, forums and conference sponsorship.¹⁴ Government concern about ICT issues across a wide range of policy areas will be addressed, including those highlighted in the recent white paper *Our Competitive Future*:

Building the Knowledge-Driven Economy, and in Information Age projects such as UK Online and the DfEE's *National Grid for Learning*. Workshops, forums and conferences will focus on specific e-society issues, such as institutional change in education envisioned by initiatives in distributed learning, or how e-commerce affects social exclusion and inclusion.

4.5. Management and Dissemination of the Programme

A Programme Director, helped by an Advisory Committee with direct links to research users in government and the private and not-for-profit sectors, will co-ordinate the research projects; ensure that the programme builds productively on past ESRC investments in ICT research; maximise the cumulative impact of the programme's research, e.g. through workshops and forums that bring together practitioners, policy-makers and researchers; and implement an effective communication strategy, including high quality Web and electronic dissemination capabilities. Award holders will provide regular reports on their research at seminars throughout the programme, and research staff will be encouraged to undertake cross-project exchanges for short periods to foster stronger integration and cross-disciplinary sharing of empirical and conceptual results. The director will prepare synthesis books and policy papers to supplement the outputs of individual projects and will also go beyond standard programme management tasks to foster cross-disciplinary explorations of programme themes, for example by organising interdisciplinary seminars, workshops and special issues of key journals.

Notes and References

1. For example, by the end of 2000, 32% of UK households could access the Internet from home and 45% of adults had accessed it at some time (Office for National Statistics, 'Internet access', at <http://www.statistics.gov.uk>), 19 December 2000). In addition, 54% of adults in the UK had a mobile phone in August 2000 (Of tel, 'Consumers' use of mobile telephony', at <http://www.of tel.gov.uk>), August 2000).
2. For example, see: Manuel Castells, *The Rise of the Network Society*, second edition, Blackwell, Oxford, 2000; and Anthony Giddens, *Runaway World: How Globalization Is Reshaping our Lives*, Routledge, London, 2000.
3. Includes the 1985–95 Programme on Information and Communications Technologies (PICT) described by William H. Dutton (ed.), *Information and Communication Technologies-Visions and Realities*, Oxford University Press, Oxford, 1996; the Media Economics & Media Culture Programme, and the Virtual Society? Programme, described online at <http://www.virtualsociety.org.uk> and by Steve Woolgar, *Virtual Society? Profile*, University of Oxford, Saïd Business School, Oxford, 2000.
4. The programme would be open to alternative definitions of structures, institutions and practices and avoid identification with a specific approach, such as the 'new institutionalism'. See: James G. March and Johan P. Olsen, *Rediscovering Institutions*, The Free Press, New York, 1989.
5. For example, the government 'UK Online' initiative aims to make Britain 'the best place in the world for e-commerce, with universal access to the Internet and all government services on the net' (see: <http://www.number-10.gov.uk>).
6. The Virtual Society? Programme found the fears and risks associated with ICTs are unevenly distributed socially (Woolgar, *op. cit.*). The Office for National Statistics (19 December 2000) reported: 'levels of access depend very strongly on income', with 62% of the highest-income households accessing the Internet and 7% of the poorest, a point supported by PICT, as discussed by William Dutton, *Society on the Line*, Oxford University Press, Oxford, 1999, pp. 238–41.

7. For example, a noted economist with an expertise in telecommunications speculated that the Internet could be analogous to the CB-radio (see: Bruce M. Owen, *The Internet Challenge to Television*, Harvard University Press, Cambridge, MA, 1999).
8. Dutton (1999, *op. cit.*, pp. 19–46) gives an overview of this research, based on PICT studies.
9. For example, see Christopher Freeman, ‘The factory of the future and the productivity paradox’, in Dutton, 1996, *op. cit.*, pp. 123–41.
10. David Halpern (‘Synoptic report of submissions to the 1999–2000 ESRC Thematic Priorities review’, an unpublished paper, ESRC, Swindon, UK, 2000), suggests the ubiquitous influence of new technologies makes it difficult to organise work around a ‘Technology and People’ theme.
11. David Stout, ‘ICTs and technology foresight’, in Dutton, 1999, *op. cit.*, pp. 333–35.
12. These categories originated from a synthesis of PICT research in Dutton (1996, *op. cit.*). They were developed further in the unpublished ESRC paper, William Dutton, ‘The web of technology and people: challenges for economic and social research’, 2000, published as William H. Dutton, ‘The web of technology and people’, *Prometheus*, 17, 1, 1999, pp. 5–20.
13. Access to secondary data sources, and the addition of questions to ongoing survey efforts, such as the ESRC-funded British Household Panel Survey, should also be considered.
14. The PICT and the Virtual Society? programmes demonstrated the value of such efforts.