



ESRC National Centre for Research Methods

**Consultation on Research Needs in Research Methods in
the UK Social Sciences**

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Executive Summary

One of the objectives of the National Centre for Research Methods (NCRM) is to assess current national provision and national needs in research methods and training through consultation with key stakeholders.

An extensive consultation on the needs for research in research methods was undertaken in 2006. This report is an update of that exercise. Four groups of people participated in this consultation via interview or questionnaire: leading researchers working on research relating to the seven key ESRC Strategic Research Challenges identified in the ESRC strategic Plan 2009-2014; participants to the 2006 consultation; Directors of NCRM and National Centre for e-Social Science (NCeSS) Nodes; and, learned societies. An open call for responses from the broader social research community was also issued. A total of 32 responses from these various sources were received.

The findings of this consultation identify the perceived needs for research in research methods of a relatively small number of social and economic researchers. These may not be representative of the views of all social scientists but that was not our intention. Rather, they represent the considered views of, primarily, senior social scientists about key areas of future research need. The areas identified overlap to a considerable extent with the findings of the 2006 consultation.

Ten key topics of methodological research need were identified with each one comprising a number of issues. These are listed below. The small-scale and purposive nature of this consultation means it is not possible to attribute any priority to the needs identified on the basis of the responses received.

1. Mixed methods and interdisciplinarity

Development of models to enable the integration of qualitative and quantitative research in single studies that go beyond traditional mixed methods models; methods to enable the integration of data collected via innovative methods with other forms of qualitative or quantitative data; collaboration between social science disciplines and social science and other disciplines to enable methodological development to address key research questions.

2. Naturally occurring digital data and new digital technologies

Methods to capture and analyse new forms of online and digital data; methods to enable the use of media tools to collect data; methods to exploit the use of global positioning systems and radio frequency identification and other mobile devices in research.

3. Longitudinal methods

The development of enhanced qualitative longitudinal methods to track change and continuity over time; development of methods to determine causality using longitudinal data; development of methods for dynamic programming and path dependence in discrete choice models; development of methods for combining event history analysis with multi-level modelling and the analysis of data with spatial structure.

4. Data linkage

Methodological research to develop understanding of the properties of linked data; research in spatial/temporal trends, bias adjustment and imputation of missing covariates and outcomes; methodological research to improve the availability of data linkage tools to ensure access and data security; methodological development to enable the linking of bio-medical and socio-economic data; research on the integration of transactional data and other forms of digital data

5. Policy evaluation

Development of methods to analyse the effect of multiple interventions on outcomes and the importance of social contexts; further work on microsimulation models; further development of systematic review methods.

6. Innovations in qualitative research

Development of ethnographic approaches; critical evaluation of mobile methods; methodological development of sensory methods; development of methods and technology to enable the archiving and sharing of multi-media qualitative data.

7. Survey methods

Research on sampling and analysis in internet and mixed-mode surveys; research on the use of paradata; methods for minimising non-response bias.

8. Comparative research

The development of methods for cross-cultural comparisons and for the incorporation of qualitative and quantitative data in comparative analysis; development of comparative historical research methods; standardisation and harmonisation of measures for comparative microdata.

9. The ethics, politics and practice of research

Research on the ethical issues arising from online and digital methods and data use; methods for engaging non-academic users; methods for measuring the impact of research on policy and practice.

10. Holistic methods

Development of methods within a complexity theory framework; development of holistic and interdisciplinary research methods to explore issues such as environmental change.

While the 2006 Research Needs Consultation was used as a template for organising the emerging topics from this consultation, there are some important similarities and differences. The continuing need for research within the areas of mixed methods, interdisciplinarity, policy evaluation, comparative research, data linkage, longitudinal research, survey methods, and innovative qualitative methods are evident. Three new areas of methodological research need were also identified: naturally occurring digital data and technological developments; the ethics, politics and practice of research; and, holistic methods.

This consultation has explored the methodological research needs perceived by, among others, those addressing substantive research topics identified as current 'strategic research challenges' by the ESRC. The need for methodological research

to enable researchers to address these key research challenges as well as issues of research impact is highlighted by this consultation.

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1. Introduction

The ESRC National Centre for Research Methods (NCRM) was established in April 2004 to enhance the range and quality of research methods used by the social science community. One of the objectives of NCRM is to assess current national provision and national needs in research methods and training through consultation with key stakeholders.

An extensive consultation on the needs for research in research methods was undertaken in 2006 (see <http://eprints.ncrm.ac.uk/84/>). The 2006 Consultation comprised consultation with key stakeholders (primarily social and economic research methodologists from the academic and wider research community) to identify their views on the methodological challenges for social research which further research could usefully address. The aim was to provide an overview of *perceived* needs for research rather than a substantive analysis of the wider social science community. The Consultation identified 13 topics in which there were perceived to be research or development needs with each topic comprising a range of issues. Four topics were particularly prominent themes: data linkage; policy evaluation; mixed methods; and, comparative research. No priority was made in relation to the other nine topics which were: qualitative data collection and analysis; survey methods; longitudinal methods and spatial analysis; research synthesis; software and technological developments; agent-based social simulation; interdisciplinary research; research practice, innovation, teaching and learning; and, substantive topics.

This report is an update of that exercise. Following discussion with NCRMs Advisory Committee, it was agreed that it was not appropriate to conduct a repeat of the extensive 2006 consultation with the same group of stakeholders given that their perceptions of research needs are unlikely to have changed significantly in the last three years. Rather, it was decided to explore the extent to which the needs identified in 2006 might still be current and whether any new needs were emerging. It was also decided to explore methodological research needs from the perspective of researchers working in the key research areas that the ESRC have identified as research challenges over the next five years as set out in the ESRC Strategic Plan 2009-2014 (<http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/strategicplan/>). This was felt to be consonant with the need to align research methods capacity with long-term strategic research priorities.

2. Consultation Procedure

Procedures

We approached four groups of people to participate in this consultation: directors of ESRC Centres within the seven key ESRC Strategic Challenges; participants in the 2006 consultation; Directors of NCRM and National Centre for e-Social Science (NCeSS) Nodes; and, learned societies. We also had an open call for responses from the broader social research community. We received 32 responses in total from these various sources.

Using the ESRC key strategic challenges, we identified ESRC-funded Centres working in the area of each of the seven topics. We contacted the Directors or Co-Directors of each of these Centres with the aim of conducting an interview with them to explore the methodological research needs emerging in relation to each substantive research area. The areas used were those identified in the ESRC Strategic Plan 2009-2014: environment, energy and resilience; global economic performance, policy and management; health and wellbeing; understanding individual behaviour; new technology, innovation and skills; security, conflict and justice; and, social diversity and population dynamics (ESRC, 2009a). Individuals from the following ESRC Centres were interviewed: Centre for Longitudinal Studies, Institute of Education; Centre for Population Change, University of Southampton; International Centre for Lifecourse Studies in Society and Health, University College London; Centre for Learning and Life Chances in Knowledge Economies and Societies, Institute of Education. We were not able to obtain interviews with individuals from ESRC Centres on global economic performance or security, conflict and justice. However, we did manage to identify and interview prominent academics with expertise in these areas. For the area of global economic performance we interviewed a professor of Economics at the University of East Anglia and for the area of security, conflict and justice we interviewed the Director of Ark at the University of Ulster, Northern Ireland. Audio-recorded interviews were conducted by telephone or face-to-face with each interviewee and lasted around 30 minutes. The interviews sought individual's views on the key needs for methodological research in the substantive area in which their Centre or work focused. Eight interviews were conducted.

The 22 participants to the 2006 consultation were contacted by email with a summary of the topics previously identified in the 2006 Consultation. They were invited to comment on these topics and to identify any additional areas that they viewed as methodological research needs. Participants were asked to comment via email or by telephone. Two reminders were sent to participants. Eight of these 22 individuals responded with email comments.

The 16 Directors of NCRM (phase one and two) and current NCeSS Nodes were contacted by email and invited to respond to a short questionnaire which was based on the interview schedule described above. The questionnaire sought to identify methodological needs arising from their substantive areas of work as well as those arising from the field of research methods. The questionnaire invited Directors to consider issues relating to the creation of new methods, the development and refinement of existing methods or their transfer across subject areas or disciplines. Directors were asked to return their responses via email and reminders were sent. Eight of the nine NCRM Nodes and two of the seven NCeSS Nodes responded with written comments (10 responses).

Twenty Learned Societies were contacted by email and invited to send comments on methodological research needs within their discipline using the questionnaire as outlined above. Four responses were received.

To provide the opportunity for wider responses from the social science community, an open call was issued inviting responses to the questionnaire. This call was advertised on the NCRM website, the SRA website and the Sage Methodspace website with a

link to the questionnaire. The call was also advertised via the NCRM e-bulletin. Two responses were received.

Data comprised interview transcripts from telephone interviews and questionnaire responses. These were read by the three researchers working on this project and the key themes identified. It was agreed that the topics identified in the 2006 Consultation Report provided a broad framework for organising the emergent topics.

While we have tried to draw on a diverse range of views in exploring methodological research needs, these data comprise perceptions of, primarily, a relatively small number of senior social scientists; a more comprehensive exercise drawing on a sample across the social science community might identify other issues. Our experience of this consultation indicated that researchers, other than experienced methodologists, do not always find it straightforward to articulate methodological research needs. Researchers appeared to find it easier to discuss needs for methodological research or development in the context of substantive areas or research questions. We have adopted an inclusive approach to categorising research needs and all research needs identified have been included regardless of the number of respondents who identified them. The needs identified have been grouped together thematically as 'key topics'. The nature of this consultation means it is not possible to attribute any priority to the 10 key topics.

3. Findings: Topics identified

Respondents raised a number of issues that we considered to be outside of the remit of this report. While the importance of these issues is acknowledged we made the decision to exclude them as we judged them not to be directly related to methodological research needs. These issues relate to i) the importance of training and capacity building and of researchers having the knowledge and skills to apply appropriate methods; ii) the importance of pedagogic research about how researchers learn; iii) the need for research on methods to be synthesised and disseminated iv) the need for additional datasets; v) the need for research in substantive areas.

A number of general points were raised by some respondents which we view as important and which underpin the findings presented. These are i) that it is important for methodological development that researchers are able to take risks in exploring inventive new methods and practices; ii) that methods should not be seen as techniques which are separate from their substantive and epistemological underpinnings and iii) that methodological research needs should encompass qualitative as well as quantitative approaches.

Ten key topics of methodological research need were identified with each one comprising a number of issues. These topics are not mutually exclusive and there are important areas of overlap between them. These issues are: mixed methods and interdisciplinarity; naturally occurring digital data and technological developments; ethics, politics and research practice; longitudinal methods; data linkage; policy evaluation; innovations in qualitative research; survey methods; comparative research; and, holistic methods. Below we outline each topic and the issues relevant to it.

3.1 Mixed Methods and/or Interdisciplinarity

Mixed methods research can be seen to cover a range of different types of approaches and designs. It may comprise mixing qualitative and quantitative approaches, mixing different types of qualitative or quantitative approaches or mixing data from studies using different data collected at different time points. All of these different types of mixed methods were raised by participants. Methodological development was identified in relation to the integration of different types of qualitative data, different types of quantitative data as well as qualitative and quantitative data. The integration of qualitative and quantitative research in single studies was identified most frequently as of central importance in understanding key research questions in many areas. Concern about divisions between qualitative and quantitative methods and methodologists underlay the issues raised. Understanding population change, for example, was identified as an area in which integrated qualitative and quantitative research was essential in order to understand not only the correlates of population flows but also the pathways and routes that help to explain it. Understanding individual and group behaviour (in, for example, education, health and environmental contexts) were other areas where the integration of qualitative and quantitative data (e.g., survey and ethnographic data) was viewed as essential.

While there has been considerable work exploring and developing ways of integrating different designs and 'mixing methods', some respondents identified the mixed methods agenda to date as 'cautious' with more development needed to go beyond the conventional and well-established approaches of integrating traditional interview-based qualitative research with surveys. Methods to enable the integration of data collected from a range of innovative research approaches, such as geographically referenced data and visual data, with other qualitative or quantitative data was cited as an important area of research development need. Some respondents attached considerable weight to identifying ways in which these and other different types of data can 'mesh together'. Particular methodological issues in need of development were identified as being at the conceptual and theoretical level with specific issues identified being an exploration of how to link data at the level of explanation and how to generalise with different forms of data.

Respondents observed that researchers from different disciplines are likely to employ very different methods of data analysis even if using the same dataset and addressing the same research question. A tendency to 'methodolatry' (whereby social researchers follows a particular approach in order to fit with the convention within a field or discipline) was noted as an important focus for further research. There is, however, considerable encouragement for collaboration and interdisciplinary working, not least from cross-council funding in particular areas, and also the desire for such ways of working. Interdisciplinary and collaborative research were viewed as important in the development of new methods and respondents noted the need for collaborative and interdisciplinary working in order to address some of the key research challenges of the 21st Century, in particular the problem of climate change and its associated impacts. Collaboration between scientists and social scientists in order to develop methods to address research questions in the broad field of health and well being was also frequently mentioned. Interdisciplinary working within the social sciences was also highlighted. Comments included the importance of collaboration between

economists and social statisticians to enhance understanding in the analysis of panel data and random effects modelling and collaboration between economists and psychologists to develop methods in the area of behaviour and motivation to explore topics such as obesity and welfare (see also final paragraph in section 3.5 on policy evaluation). Collaboration between social science and arts and humanities as a means of developing new and innovative qualitative methods was also identified (see also section 3.8 on comparative methods).

Collaborative and interdisciplinary working described by respondents was identified as going beyond conventional multidisciplinary models, where parts of a project are undertaken separately albeit in a collaborative research design. The approach described by respondents was of integrative designs that are able to work at or in the 'in-between' spaces that a disciplinary approach to research questions may fail to address. The challenges of integrative work across disciplines, however, were widely noted as presenting both practical and methodological difficulties. The need for methodological development to enable social and economic researchers to learn how to engage with disciplines with different approaches, terminologies, and methods was highlighted.

3.2 Naturally occurring digital data and new digital technologies

The development of new technologies was identified as having an impact on the types of data that are available and on the ways in which data might be collected and analysed. The development of methods to manage these was cited as a key research need. These issues touch on some of the research that has been, or is, being conducted by the National Centre for e-Social Science (NCeSS). Many of the issues raised in this section have ethical implications and some of these are discussed in section 3.9 below.

Respondents identified the ways in which media tools such as 'Twitter' and 'Facebook' have changed the ways and the speed in which ideas are developed and transmitted and that such types of social interaction are increasingly significant. Methods to enable the capture and analysis of these new forms of data were identified as important. On-line and other forms of digital data were also identified as presenting researchers with new possibilities for exploring research questions, particularly research with young people who are comfortable with using such technologies. It was noted that more research on how these types of data might be used, including the ethical implications is warranted (see 3.9 below on ethical issues).

The possibilities of collecting and analysing various forms of internet communications was a further area identified. It was noted that opportunities arise from data that can be collected from the internet to explore links between people and communication flows. The importance of collecting, processing and exploiting the huge quantities of data that are becoming available from sites such as Facebook and Flickr was noted as was the importance of designing new data collection instruments to collect, manage, and analyse internet communications in appropriate ways.

The use of the internet to deliver behaviour change interventions and to collect vast amounts of longitudinal data about behaviour and behavioural change was noted. A need to develop new methods to create, deliver and assess digital interventions and new statistical techniques for analysing the data collected in this way was cited.

Research in this field was identified as important in understanding the influences on behaviour and how they vary in different contexts.

Further technologies that were identified as impacting on the ways in which research might be undertaken were the use of Global Positioning Systems (GPS), radio frequency identification (RFID) and other mobile devices. These technologies were identified as having the potential for providing new sources of data but better understanding of their potential for research and the development of methods for their use is necessary. In the area of conflict and security, for instance, GPS was viewed as a technology that has the potential to be used in recording people movement in conflict situations, such as refugees.

An overview of the applicability and appropriateness of various visualisation techniques to understanding statistical patterns was also identified as a research need. While approaches such as geometric data analysis and GIS visualisation tools have are enjoying considerable popularity, concern was expressed about the tendency of these approaches to oversimplify complex patterns and to bundle together multivariate influences in a holistic manner which does not allow for the informed assessment of distinct influences. The ability to critically review the analytical contribution of emerging visualisation tools was identified as a research need.

3.3 Longitudinal methods

The need for methodological research and development in relation to both qualitative and quantitative longitudinal research was identified.

In relation to qualitative longitudinal methods, it was noted that the development of ethnographic methods to understand individuals' lives is important in understanding change and continuity. It was noted that current ESRC investments in qualitative and quantitative longitudinal work (e.g., Understanding Society, Timescapes) tend to rely on sequential waves of surveys or interviews. Some respondents stated that a deeper insight into change – how and why it occurs, when it occurs and what it looks like – needs to use ethnographic methods to get into the lifeworlds of people, places and communities. This is likely to mean closer and longer-term contact between researchers and participants. The development of enhanced qualitative and quantitative longitudinal methods to track effects of various political, social and economic changes such as welfare state retrenchment, changing population structure, climate change and political attitudes and participation was also noted. Novel observational methods were also mentioned specifically in regard to energy and climate change, since the behavioural change agenda requires tracking and interpreting home energy use over time without the use of over-complex survey instruments.

Regarding quantitative longitudinal research a range of topics was cited. The management of sampling, non-response and attrition were raised in relation to research in the area of health and wellbeing. Development of methods to determine causality within longitudinal data, the synthesis and dissemination of knowledge between economists and others concerning fixed effects versus multilevel modelling for panel data and developments in point process models for social science data with temporal and spatial structure were also identified. The development of methods for dynamic programming and path dependence in discrete choice models with individual

unobservable differences in relation to consumer panel data was a further area highlighted. This was also noted in relation to policy evaluation (see section 3.5).

In relation to the areas of understanding individual behaviour and health and well-being, analysis methods proposed by Heckman were cited as important for dealing with endogeneity and for events that change an individual's personal characteristics over time so that such characteristics become 'embodied' (or endogenous). The need for the integration of path models, growth curves and associated techniques, such as directed acyclic graphs (DAGs), with structural equation models was identified as a research need. A specific need for research in population change was identified as methods for population projections, in particular how uncertainty about issues such as fertility can be incorporated into projections. Bayesian statistics were identified as a way of managing this but of in need of further development in this area.

The development of methods of longitudinal research that puts the individual in context were cited as necessary for addressing issues on population dynamics. It was noted that methodological research needs to be developed within the substantive area to ensure it addresses the specific research questions relating to population dynamics. Two specific issues were identified: the development of methods for combining event history analysis with multi-level modelling and the analysis of data with both longitudinal and spatial structure. The difficulties inherent in linking data on locality with longitudinal data were noted as a further area of development need.

As noted above in section 3.2, methods to analyse digital data with longitudinal structure, such as that from behavioural interventions delivered online, were cited as a methodological development need.

3.4 Data linkage

Several respondents noted the importance of the work on data linkage currently being undertaken by the NCRM Admin Node, but that there was still considerable work needed in this area and that this was an important area of methodological development need. Data linkage was identified as offering major benefits for social scientists. The field of education research was identified as an area where this would provide significant benefits; the linkage of cohort studies with data from the National Pupil Database (NPD) was one example given. Another area in which this work was viewed as important was in the analysis of population change and its implications for social care needs where it was noted that disparate forms of data can be used as a basis for projecting population change and care requirements.

There were two key areas of need identified in relation to data linkage, these relate to i) the need for methodological developments around linkage and ii) the need to convince the wider public that administrative data can be safely linked without posing a threat to privacy. In relation to the first of these, some respondents highlighted the need to undertake robust methodological work to enhance understanding of the properties of linked data and ensure that the full limitations of administrative data are appreciated. Concerns were expressed about the reliability of official data and the need for considerable work identifying how such limitations can be managed. Linked data was viewed as important in advancing research in spatial/temporal trends and also in bias adjustment and imputation of missing covariates and outcomes. The next major linking that will take place is linking administrative data records to the full range

of cohort data sets available (such as the NCDS, BCS and BHPS / UKHLS). Challenges around the reliability of linkages will be raised by this which will provide an opportunity for further work on attrition, non-response and other survey problems. Finally, the need to investigate linkage issues with transactional data and other forms of online data was identified.

The second issue, that of the wider public's concerns about privacy, was raised as a significant challenge to data linkage, with concern being heightened by the high profile data losses which have undermined public confidence in data security (see also section 3.9). It was noted that there is a need for organisations to promote the responsible use of administrative data in research. Methodological research in improving the availability of data linkage tools to research analysts, such as dealing with access issues and secure data environments were identified as important.

The linking of bio-medical and socio-economic data and the use of bio-markers was a further area of research need cited as important in relation to research on health and well-being, particularly in relation to health inequalities and individual health behaviour. It was noted that there are a number of practical and methodological problems in relation to sharing and linking such data. In relation to methodological issues there is a need to develop compatible coding and analysis systems. Some of the issues in the section on mixed methods and interdisciplinarity raised above (section 3.1) are relevant in relation to this issue.

Needs for research on the use and integration of transactional data and other forms of online data with other research data were also cited.

The increasing potential for linking different qualitative sets as well as qualitative and quantitative datasets was also highlighted. With regard to this, the need was identified for research on the development of compatible protocols and coding systems, manipulation and analysis of such a mix of data sets.

3.5 Policy evaluation

The need for methodological development in the area of policy evaluation was identified. Methodological development needs in this area were also raised in relation to research on global economic performance, policy and management.

The need for a range of methods to be developed to explore the importance of social contexts was noted and realistic evaluation was cited as an important approach. Methods to enable understanding of how multiple interventions or policies impact on desired outcomes are also needed and contribution analysis developed by John Mayne was identified as providing a framework for developing this, in particular the difficulties with attribution in social settings. The need for a better 'toolkit' to work with service providers and policy makers to clearly articulate aims, objectives and desired outcomes of evaluation was also noted; 'logic models' and 'results chains' were examples given of these. The importance of evaluation methods being critically assessed and for the synthesis and dissemination of policy relevant research methods was also cited. Further work on the specification and exploitation of microsimulation models was viewed as a methodological development need.

Research synthesis was identified as a topic linked to policy evaluation with Government researchers noting the importance of research synthesis in the context of diminishing budgets and the need to avoid redundant work. A range of development needs and opportunities were highlighted in relation to systematic review methods including: statistical techniques for examining heterogeneity in reviews; the development of qualitative synthesis methods; mixed methods of quantitative and qualitative synthesis; the use of economic data in social science data synthesis; methodological assessment of the effects of different aspects of the review process; and, technological methods of enabling systematic reviews.

In the substantive area of global economic performance, policy and management, the need for the development of methods that incorporate experimental economics with conventional research approaches was cited in relation to interventions focusing on behavioural change, such as in relation to environmental issues and health. This was seen as necessary to ensure the identification of underlying drivers of behaviour rather than simply taxonomies of population subgroups. The need to develop a broad range of comparative methods to evaluate interventions and inform policy in relation to education was also identified (this is explored in more detail in section 3.8).

3.6 Innovations in Qualitative Research

Methodological research needs were identified in the broad area of qualitative data collection and analysis. The importance of combining and integrating qualitative methodologies with quantitative research was widely noted in many of the topics identified.

The development of ethnographic approaches was viewed as important in developing understanding in a range of research contexts. This was identified in relation to research in population dynamics, health and environmental change. Specifically, the development of ethnographic methods was cited as necessary for assessing energy use and understanding behavioural data. The development of such methods was viewed as important in understanding change and continuity in longitudinal research (outlined above in section 3.3 on longitudinal methods) but this was also identified as necessary in relation to exploring reported behaviour with actual behaviour.

The growing interest in space and place and the associated use of mobile methods, such as walking interviews in specific locations to explore participant's engagement with or views of an area, was highlighted. It was noted that there is a need to explore the appropriateness of various approaches to mobile methods, to evaluate their potential and to develop a systematic approach to data collection and analysis. Mobile methods were viewed as appropriate in exploring, for example, the impact of environmental change in specific regions. The interest in space and place was also identified in relation to geographically referenced data and global positioning systems (GPS) and geographic information systems (GIS) and the possibilities of using these types of data alongside qualitative data. The potential for using qualitative data, including geographically referenced data in research that builds models was also identified as an area in need of further methodological development.

The need to develop a wider and more creative range of methods to understand the social world was identified, particularly the use of sensory methods. Topics for development include visual methods, memory work, music elicitation and a range of

ways of constructing narratives and stories that move beyond text. Some of these methods are currently being explored by the Realities Node at the University of Manchester. The development need was identified in relation to the ways in which data might be generated by sensory methods as well how such data can be analysed. In relation to analysis, explorations of the explanatory nature of such data and the ways in which these data might be integrated with other data were viewed as important. The need to develop and explore the appropriateness of these methods, including what questions such methods can or cannot address and their affordance in furthering understanding of an area was noted. Collaboration with disciplines outside of the social sciences, such as arts and humanities which are more familiar with such methods, were identified as potentially helpful in aiding the development of these types of methods.

The development of technology and methods to enable the archiving and sharing of new forms of qualitative data, particularly multimodal and visual data, were identified as necessary. Other areas identified in relation to qualitative analysis include that of the analysis of naturally occurring digital data discussed above in section 3.2.

3.7 Survey Methods

In the survey and market research fields, the growing use of internet-based surveys was noted. The need for more research on whether the sampling methods used in this mode, for example the use of self-selected 'access panels', provide a robust base for producing representative and replicable findings was highlighted. The increasing use of mixed mode surveys was also cited as giving rise to research needs; research on the statistical properties of data collected in mixed mode surveys and how to take the modes into account in the analysis were noted.

The use of paradata (process data) was identified as important to tackle challenges such as declining response rates, non-response bias, measurement error and the growing costs of survey data collection. However, further research was identified as necessary before the use of paradata can be fully exploited. Needs identified were in relation to: tools and techniques for managing vast amounts of paradata; issues of data confidentiality and commercial sensitivity; and, evaluation of the utility of paradata for data quality assessment.

The need for research on methods for minimising non-response bias in survey data was also highlighted, particularly in relation to low response rates found in some areas of work. Questions raised by the management of bias in the context of low and declining response rates were cited as an area for further research.

Other issues identified in relation to survey methodology are addressed in section 3.3 on longitudinal methods and 3.4 on data linkage.

3.8 Comparative Research

The ESRC initiative on comparative cross-national research methods (2009) will, perhaps, go some way to meeting methodological research needs in the area of comparative research. However, methodological development needs in comparative research were raised by respondents.

The importance of developing comparative methods were identified as a research need in the area of education and skills, and the area of security, conflict and justice in particular. A prominent example was researching relationships between lifelong learning, economic competitiveness and social cohesion. Current practice in comparative analysis was viewed as being insufficiently rigorous in that it often fails to adequately take account of context. The challenge was identified as being to understand the pattern of effects across countries taking account of the context of, for example, welfare systems and labour markets; the aim being to understand why something works in a given context and how it might work in another context if certain conditions are altered. The failure of current comparative research to adequately account for context was identified as resulting in policy being developed before adequate comparative analysis has been conducted. This importance of research on a broader range of comparisons, as an addition to the ESRC initiative on comparative cross-national research methods, was also noted.

Perceived weaknesses of current comparative research were said to result partly from research governance issues, as set out in section 3.9 below, and partly from the methods commonly used. Regarding the methods, a need for greater incorporation of qualitative analysis was identified. It was stated that without sufficient qualitative work in different contexts it is not possible to understand and interpret the meaning of quantitative findings and that this can result in gross misinterpretations. The need for comparative historical research on the institutional systems and structures within different countries was identified as fundamental in understanding how systems have evolved, how they work and how they might be reformed. An example of research of this nature was US research into training systems. Although historical work tends to be the preserve of the AHRC, the case was made that social scientists need to explore such routes because of the high value added to policy analysis.

Research needs were also identified in relation to the standardisation and harmonisation of measures for comparative microdata, especially for categorical variables. A shift in focus from measurement equivalence to meaning equivalence in comparative survey work was also noted as necessary.

3.9 The Ethics, Politics and Practice of Research

Various issues relating to the ethics and politics of research were raised. While not strictly research methods, they are methodological issues which concern the practice of research. Responses in this area related to the importance of developing methods and practice that enable researchers to conduct research that takes into account researchers' relationships with research participants and research users. The issues cited include ethical issues that arise in managing new forms of data or exploring important research questions in specific or changing research contexts as well as political issues in the ways that research is conducted and its impact.

The increasing ethical regulation of social research has meant that ethical issues have become fairly prominent in researchers' minds and that may account for it being raised as an important issue. However, there appear to be some significant methodological developments that have raised specific issues. Respondents noted the extent to which development in ethical thinking is needed in relation to new and emergent methods, many of which have arisen from the use of on-line and digital technologies in research (see section 3.2). There has been a significant increase in the use of visual,

sound and digital data in research and the need for sustainable ethical research practice in relation to the use, dissemination and archiving of such material is necessary. Respondents also noted the range of on-line and digital data that are now becoming available and which are commonly used in conducting research on or with young people. These include data that can be used, for example, from twitter, blogs, text messages and mobile phone photographs. A range of ethical issues are raised by using material available from such sources as 'data' or by using such sources as a means to collect data. While some researchers have begun to develop thinking in this area (such as the Oxford Internet Institute), it was noted that guidance on how to proceed in ethical ways is underdeveloped leaving many researchers unsure about how to use such methods in ethical ways.

A range of ethical issues were also raised in relation to addressing important research questions around the area of security and conflict. It was noted that myriad ethical issues emerge when working in or on divided or conflicted societies or indeed with specific politicised groups. These include access, confidentiality and justice as well as issues of neutrality and objectivity. The impact that research can have on the communities from which research participants are drawn is a further issue. Specific and important ethical issues are raised by addressing research questions in this area and these may also impact on researchers' safety and well-being, yet there is insufficient understanding of how this can or should be managed. Given the centrality of this research topic, it is an area where further research and development is necessary.

Respondents also raised issues about access to social survey data, noting the concerns with disclosure risk assessments which are limiting access to datasets. It was stated that, in recent years, there has been a trend for data providers to reduce the level of detail in data being released and to limit access to data. This issue is discussed further in section 3.4 on data linkage.

The second area within this broad theme we have referred to as the politics of research. This comprises issues relating to the perceived importance of engaging non-academic users, informing practice and of research 'impact'. Respondents noted the mounting pressure for 'engaged' research which has direct and immediate impact on non-academic users. The need was identified to develop new research methods which directly engage non-academic users at different stages of the research process and which provide findings in a form that can inform or even guide practice. For some researchers this involved developing methods that 'speak to' people's own experiences and ways of living in the world and engaging with participants to enable demand-led research. For others the issues were seen to be more about methods of disseminating research findings to ensure they reached the communities who were affected and in order to inform policy and practice. Methods for ensuring the systematic measurement of the impact of research were also identified as important. This seems consistent with the ESRC's strategic emphasis on impact assessment (ESRC, 2009b). It was noted that there are a proliferation of approaches to monitoring and evaluation but that this needs clarification and new methods need to be developed. Finally, some concern was expressed about research governance arrangements in policy evaluation, set out in section 3.5.

3.10 Holistic Methods

A number of issues emerged under the broad issue of methods appropriate for studying systemic or long term change / challenges and people's responses to them. One methodological framework identified was complexity theory, because of the need to understand social and economic phenomena as complex adaptive systems. In understanding interaction between actors, a complex systems perspective was claimed to be more appropriate than that afforded by conventional linear and equilibrium-oriented statistical techniques. Agent based social simulation was one method cited which, advocates claim, has been developed from such a perspective. This approach also purports to study interactions between agents which form component parts of a system. Another approach identified was that of the community study method associated with post-war British social research on poverty and urban development.

The principle examples where these approaches were viewed as necessary were in relation to global environmental change; a range of methodological needs were cited as arising from the challenge of addressing this area. Respondents noted the need to develop holistic and interdisciplinary research methods to inform our understanding of the multi-faceted and complex structural problems of environmental change and associated impacts.

4. Conclusions

The findings of this consultation identify the perceived needs for research in research methods of a relatively small number of senior social and economic researchers. These may not be representative of the views of all social scientists but this was not our intention. Rather, they represent the considered views of, primarily, senior social scientists about what are the key areas of future methods needs. Our experience suggests that, with the exception of methodologists, researchers may find it difficult to identify needs for research in research methods, particularly through the medium of a questionnaire; this may explain the limited response from the wider social science community. This is not to say that such needs do not exist. We found exploring methodological research needs in key substantive areas through interviews with researchers working in these areas to be an appropriate and productive way for exploring these issues. The findings from these interviews as well as consultation with methodologists and learned societies has resulted in the identification of a range of areas in which this group of researchers view there to be needs for research.

This report has identified ten areas in which methodological research is viewed as needed by members of the social science community. While the 2006 Research Needs Consultation (Bardsley & Wiles, 2006) was used as a template for organising the emerging topics from this consultation there are some important similarities and differences. In the main, the areas of research need cited by respondents in this consultation were organised into the same broad topics identified in 2006. The continuing need for research within the areas of mixed methods and/or interdisciplinarity, policy evaluation, comparative research, data linkage, longitudinal research, survey methods, and innovative qualitative methods are evident. This is despite the fact that considerable ESRC investments in at least some of these areas have been made (e.g., in comparative methods, data linkage and qualitative longitudinal research). This indicates that further or different types of methodological

development are viewed as needed in relation to these broad areas in order to address important social research questions.

Interesting differences between the two consultations also emerge *within* each of these broad topics. For example, in relation to longitudinal research, the need for research on methods for qualitative as well as quantitative research emerged in this consultation. Similarly in the area of comparative research, the focus in this consultation was on developing adequate methods for cross-cultural comparisons and comparative analysis, including comparative historical research, rather than cross-national survey research being the primary focus as it was in the 2006 consultation. In the area of innovative qualitative methods too, the topic of mobile methods emerged as a new area.

Three new broad areas of methodological research need were also identified: naturally occurring digital data and technological developments; the ethics, politics and practice of research; and, methods for understanding systemic and/or long term change. The perceived need for research in these areas reflect: i) rapid technological developments in the ways in which people interact with each other and in the scope for observing online (and offline) behaviour; ii) changes in the research environment encouraging researchers to engage with issues of research 'impact'; and iii) broader societal concerns in relation to issues such as environmental change and its associated impacts. Within each of these areas the need for methodological research to harness ways for research to address these emerging developments were cited as necessary.

The areas of methodological research need that have been identified in this consultation accord not only with the future priorities identified by the ESRC in the seven strategic research challenges but also with their strategic objectives for creating and supporting impact (ESRC, 2009a). In relation to impact, the ESRCs strategic objective for 'impact through world class research' identifies enabling and enhancing developments in interdisciplinary research, comparative methods and engagement with users as future priorities. In relation to the seven strategic research challenges, developments, enhancements or investments in policy evaluation, interdisciplinary research, comparative methods and longitudinal methods are identified as future priorities across most of the seven strategic research challenges. Other topics cited in this consultation are also identified as priorities in relation to specific research challenges: developments in administrative data and/or data linkage are identified as important in relation to research on *health and well being* and *social diversity and population dynamics*; the exploitation of new technologies for research is highlighted in relation to research on *new technology, innovation and skills*; and the need for the development of methods for understanding systemic or long term change is highlighted in relation to research on *environment, energy and resilience*. Overall, this consultation provides some specificity on the areas within these broad topics that methodological research might usefully address.

References

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Methodological Research Needs Questionnaire 2009

The ESRC National Centre for Research Methods is undertaking a consultation exercise to identify key areas of research need in relation to research methodology. This follows on from a previous consultation exercise that was conducted in 2006 (see <http://eprints.ncrm.ac.uk/412/1/BW.pdf>).

Methodological research needs in this context are to be interpreted in relation to ESRC's strategic objectives "to provide the ... methods needed to meet future social science challenges" and "to ensure the availability of sufficient first class capacity, including ... methodology, for the UK to undertake top class social science".

Research needs may relate to different stages of methodological development: from the creation of new methods, through the development and refinement of existing methods or their transfer across subject areas or disciplines, to the investigation of specific practical applications of methods as exemplars in a training and capacity building context.

Please respond to the following questions about research needs. Please address some or all of the topics, as appropriate to your own areas of expertise. For any needs you identify, please provide as much detail as possible about why this need is important in relation to the strengthening of UK social science research capacity.

1. Substantive research areas

- a) What key needs for methodological research are generated by the fields of **substantive social and economic research** with which you are most familiar? These may be needs that emerge from new research questions or from challenges faced within substantive social-economic research.

- b) Why are these developments important?

2. Data sources

- a) What specific needs or opportunities for methodological research arise from new kinds of **data** or other research resources which are becoming available to researchers or which might become available following methodological development?

- b) Why are these developments important?

3. Methods

- a) There may also be needs for research that arise from the field of research methods itself. What needs for research are there in relation to **methods**? Needs might be identified from emerging developments and innovations in methods or the need to improve and better understand existing methods.

- b) Why are these areas important? What contribution would research in these areas make to social science research capability?

Thank you for completing this.