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Introduction

The purpose of a fish trap is to catch fish and when the fish are caught, the trap is forgotten. The purpose of a rabbit snare is to catch rabbits. When the rabbits are caught, the snare is forgotten. The purpose of the word is to convey ideas. When the ideas are grasped, the words are forgotten. Where can I find a man who has forgotten words? He is the one I would like to talk to.

- Laozi, Taoist philosopher

When that first computer-to-computer¹ chat took place at UCLA² back in 1972 (Zakon, 2005), nobody could have ever imagined its consequences and implications for social science research methodology. The understanding of research methods has significantly changed with this revolutionary role of information communication technologies. With its power to share and distribute information throughout the entire realm of human activity, as Castells (2001) put it, the social research process has undertaken a long-term journey which still has many routes to discover – the journey of electronic data collection. Face-to-face and mail surveys started to be replaced by various forms of computer-assisted interviewing and surveying. In the 1990s, after the introduction of World Wide Web, technological advances took social science data collection another step closer to almost unlimited possibilities. With continuous technological improvements, online data collection has become an expanding and prosperous field. E-mail and web opportunities have brought new winds to qualitative and quantitative data collection methods. Web surveys, online qualitative interviews, online focus

¹ Technically, this dates back to 1958 when Bell researchers invented the modem, which enables communication between computers. In 1962, the Rand Corporation, a US government agency, developed a military computing system to deal with nuclear attacks. In 1965, the ARPA (Advanced Research Projects Agency Network) studied a ‘cooperative network of time-sharing computers,’ and in 1968 ARPANET was established. The first PhD thesis on this topic was written in 1973 by Bob Metcalfe of Harvard looking at the idea for Ethernet. 1974 saw the first use of the term Internet, by Vint Cerf and Bob Kahn after they developed basic ideas about it. The first public network, Telenet, was established in 1974. In 1991 Tim Lee developed the World Wide Web at CERN.

² University of California, Los Angeles.

groups and virtual ethnography are now increasingly used to replace face-to-face research interactions³ with technologically mediated ones.

However, these technological innovations have not significantly impacted on a whole new exciting tradition yet – mixed methods research. The key ambition of this thesis is to make a breakthrough by ‘taking mixed methods online’. I begin by clarifying what I mean with ‘information communication technologies’ and ‘mixed methods research’.

Defining terms

What do I mean by information communication technologies?

Throughout this book, when using the term information communication technologies⁴ (ICTs) I am referring to a specific aspect of ICTs – the Internet and within that to computer-mediated-communication (CMC), upon which new formats for collecting social science data are based. Here, I am not looking at any other electronic media such as the telephone, television or even more recent mobile devices. Rather, I use the term CMC or online interaction in comparison with face-to-face interaction (Giese, 1998). Often, I use the expression ‘online’ as opposed to ‘offline’ or real-world. The following definition provided by Castells (1996) demonstrates my perception of ‘online’:

The new communication system radically transforms space and time, the fundamental dimensions of human life. Localities become disembodied from their cultural, historical, geographical meaning, and reintegrated into functional networks, or into image collages, inducing a space of flows that substitute the space of places. Time is erased in the new communication system when past, present and future can be programmed to interact with each other in the same message. The space of flows and timeless time are the material foundations of a new culture, that transcends and includes the diversity of historically

³ Research interaction as an interaction between the researcher and their research participant(s).

⁴ In a nutshell, ICTs are technologies to handle information and aid communication. In particular, they involve the uses of electronic sources, computers and software to manage information.

transmitted systems of representations: the culture of real virtuality where make-believe is belief in the making (Castells, 1996: 357).

This short excerpt is also especially meaningful in relation to online research methods. As we will learn, almost all aspects of the main advantages of online research methods are included in it.

Mixed methods research: a recent and debated approach?

Mixed methods research, as it is increasingly called (Bryman, 2006: 5), has previously been promoted by Tashakkori and Teddlie (2003: 4-5) as ‘the third methodological movement’ in the social and behavioural sciences. They recognise three categories into which research practices can be roughly assigned: (a) quantitatively-oriented research practices rooted within positivist and postpositivist traditions and mainly interested in numbers; and (b) qualitatively-oriented research practices, working within constructivist and naturalist traditions and primarily interested in words. As a last category they suggest (c) mixed methods research practices, working within multiple paradigms and interested in both types of data. On the other hand, Giddings (2006) opposes calling it a ‘methodological movement’ and suggests that ‘mixed methods as it is currently promoted is not a methodological movement, but a pragmatic research approach’ (Giddings, 2006: 195). Whichever label we decide to apply, it is without doubt becoming a widely debated, increasingly used and somehow fashionable research orientation that only a decade ago caused heated discussion when researchers sought to frame it within the existing research paradigms.

According to Giddings (2006: 196), mixed methods have gained so much appreciation and support due to their accordance with ‘the global economic imperative of the 1990s to do more with less and with the rising evidence-based practice movement’. This shift in economic and ideological realms has led to recent calls for mixed methods research. Government and private funding agencies worldwide (Giddings, 2006: 197) in particular have drawn the attention of more ‘traditionally’ oriented researchers to explore what the combined use of methods lying at the heart of what has been called

the ‘qualitative-quantitative divide’ (Bryman, 1984; Caporaso, 1995; Fry, 1981; Glassner and Moreno, 1989b; Hammersley, 1992a; Howe, 1992; Libarkin and Kurdziel, 2002; Tarrow, 1995) can offer. Many researchers have noted⁵ that it is highly recommended to design their research proposal to include a mixed methods approach so as to be able to obtain research grants since many funding institutions and policy-makers highly prioritise such research.

That the field is also growing and gaining a considerable amount of attention in academic circles is demonstrated by its inclusion in various academic conferences, workshops, summer schools etc. These days almost every methodological conference includes at least one presentation session of mixed methods. A vast body of literature, including books, book chapters and journal articles has been published in the last few years and is still growing. By and large, this new field, even though practiced already since the start of the nineteenth century but later compromised and marginalised for its lack of philosophical rigour, has been prospering in recent years. Scholars and researchers from a wide range of disciplines, including sociological research, anthropological research, organisational research, psychological research and particularly nursing research, health sciences, educational research and evaluation studies are making efforts to develop standards, procedural guidelines, nomenclatures, research designs and a paradigmatic basis for mixed methods research.

Although considerable progress has been made with regard to combining qualitative and quantitative methods in a single study, there are still some philosophical and technical issues involving the process of development and evaluation (Bryman, 2006; Giddings, 2006). Serious challenges are encountered when such kind research is carried out and, as Morgan (forthcoming) argues, studies employing different methods are not *per se* preferable to those only relying on one method. It usually involves more than twice as much work, particularly if the researcher’s goal is not just to use ‘each separate method effectively but also combine them effectively’

⁵ In personal communication at the 2005 and 2006 Mixed Methods Conference in Cambridge, UK.

(Morgan, forthcoming). The process of combining them is a complex process since all research resources are practically doubled.

The actual process of data collection in mixed methods designs is usually restricted by a fixed order of precedence of qualitative and quantitative methods (e.g. qualitative interviews followed by a survey). Researchers typically pursue only one qualitative phase and only one quantitative phase to conclude a mixed methods study, mostly due to the significant time and financial investments needed for its completion.

This book seeks to bring a fresh perspective on existing mixed methods designs by providing a platform to move beyond the static nature of sequential designs and open up new view of flexibility and dynamics supported by new information communication technologies (ICTs).

The use of ICTs opens up a wide range of possibilities to innovatively exploit an online environment to simplify and foster research involving mixed methods. So far (to our knowledge), almost all mixed methods studies collect data in the traditional fashion (i.e. with more conventional research methods) even though in recent years the administration of social science research methods over the Internet has significantly increased. Nowadays, the most frequently used online method is web surveys (Kiesler and Sproull, 1986; Van Selm and Jankowski, 2006). Similar progress has been made in the field of qualitative methods, with numerous studies employing online interviews or online focus groups (Burton and Goldsmith, 2002; Chen and Hinton, 1999; Markham, 1998; O' Conner and Madge, 2003; Selwyn and Robson, 1998), and virtual ethnography (Beaulieu, 2004; Hine, 2000; Miller and Slater, 2000). We shall attempt here to bridge the current 'digital divide' between the mixed methods approach and other research approaches.

Layout of the book

The book is divided into three parts. Part I addresses several preliminary considerations that need to be discussed before implementing ICTs into mixed methods designs. These considerations concern the

difficulties of answering basic questions such as ‘when does a study qualify as a mixed methods research’ and ‘how to tackle the epistemological issues for combining qualitative and quantitative methods’. To answer these questions, we must take a closer look at the conceptual and historical underpinnings and the debates surrounding mixed methods research. The chapters in Part II bring a new perspective to existing mixed methods designs by providing a platform for and the conceptualisation of online mixed methods design. The aim of the proposed design is to move beyond the static nature of sequential designs and opens up a new perspective on flexibility and dynamics supported by new ICTs. The last part presents chapters dealing with empirical tests of flexible online mixed methods design. Although indirectly through an experimental approach, this part seeks to demonstrate how FOMM would perform in real-world research. A brief summary of each chapter follows.

In Chapter 1 – Conceptual issues and historical background to mixed methods research – beside basic definitional issues, the philosophical and theoretical underpinnings of mixed method research are discussed as is the historical emergence of studies combining qualitative and quantitative methods. The main philosophical differences underlying qualitative and quantitative methods are highlighted and solutions to the commensurability of both approaches are identified.

Chapter 2 – Current state of mixed methods design – deals with the current state of the art. At the beginning the two main rationales for the combined use of qualitative and quantitative research are discussed. As the chapter proceeds the main typologies for mixed methods designs are introduced. The chapter concludes by indicating the need for more flexible mixed methods designs.

Chapter 3 – Towards a flexible online mixed method design – offers a brief overview of online research methods. The temporal structure of online research methods is presented as well as their main advantages and disadvantages. The ethical issues of online research methods are briefly discussed. As the chapter progresses, a conceptual base for the development of a flexible online mixed methods design is discussed.