



The unholy marriage? Integrating qualitative and quantitative information in Delphi processes

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ABSTRACT

This study analyses the strengths, weaknesses and pitfalls encountered when combining qualitative and quantitative information in a Delphi process and when reporting the results as scenarios or images of the future. The paper draws material from seven Disaggregative Policy Delphi processes conducted in Finland in 1999–2008, in which the authors were researchers or advisors. The cases are analysed in terms of the level of integration and the ways to overcome the difficulties. A learning ‘community of practice’ was created by these afterthoughts and by organising an international conference workshop on the issue. Qualitative and quantitative material was holistically integrated in one case. In the other cases, solutions led to domination of one material type over another but even then the other material did give relevant points to scenario formation. Finally, we give recommendations for tackling the pitfalls: 1) balancing between qualitative and quantitative, 2) balancing between formal structure and questions raised in the process, 3) framing questions to discover alternative future states, 4) paying attention to panellists’ style, 5) dealing with lack of data for comprehensive cluster analysis, 6) considering scenario consistency, 7) understanding manager’s responsibility and, 8) understanding the epistemological aspects of Delphi data. We conclude that integrating qualitative and quantitative material by using mixed methods to form coherent scenarios is at the same time desirable, possible and difficult – making the ‘unholy marriage’ a worthy adventure.

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1. Introduction

1.1. Prologue

In the early 19th century, three Christian kingdoms, Russia, Austria and Prussia formed the *holy alliance* against the democratic movement of the French Revolution. The concept *unholy alliance* was in turn used for the alliance against Russia during the Crimean War, made by Western European Christian countries with the Ottoman Empire (or the Turkish Empire), the Muslim monarchy in the mid-nineteenth century. Thereafter the concept has become a cliché, or even a myth of any coalition including apparently incompatible parts. David Holbrook’s famous poem *Unholy marriage* with reflections of Shakespeare’s *Romeo and Juliet* powerfully fuelled the expansion of the idea in the 1960s. The methodological debate in social sciences on the difference between qualitative and quantitative research seems to have connoted the same idea of divine incompatibility. Either the methodological debate has dealt with the superiority of one approach over the other, or the unholy marriage has been denied by being ‘just friends’.

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1.2. From 'either...or' to 'both...and'

The traditional methodological debate over the superiority of either qualitative or quantitative research seems to have ceased recently. Rather, both approaches have been acknowledged to have their merits. To categorise, qualitative approach is useful, for example, when exploring the meanings and interpretations for various phenomena, and quantitative approach is valuable when, for example, explaining relationships between the parts of studied objects. Accordingly, qualitative and quantitative approaches complete each other; but are researchers able to gain a better picture from their research objects by combining the two approaches instead of using them separately?

In order to draw this holistic picture, the mixed methodology approach in which both qualitative and quantitative material and methods are integrated, has become a more popular research approach from the 1990s onwards [1,2]. Various concepts with varying emphasis, such as multi-method, combined, integrated and hybrid research, have been used for labeling such a methodological approach [1]. The core idea and practice of the approach are to use qualitative and quantitative methods in a research project, to specify in the research design how qualitative and quantitative elements are elaborated in data collection and analysis, and to explain explicitly how qualitative and quantitative aspects relate to each other [1,2]. This definition is used in this paper. In addition, pragmatism has often been used as the philosophical basis for mixed methodology [3].

Despite the increased interest in mixed methodology, however, the practice of integrating qualitative and quantitative methods has been far from unproblematic. Based on his studies on journal articles, which stated that they were based on both qualitative and quantitative research, Bryman concludes that mixed method studies may have problems both in designing the study explicitly and in handling the extensive data gathered by various methods [4]. He argues that often the justifications for using mixed methods were not thought through adequately, or alternatively an inconsistency between qualitative and quantitative data caused unanticipated difficulties in interpreting the research findings. Both these problems may be disposed of by focusing on how communities of practice could conduct mixed-method studies better, as Denscombe points out [3].

Lave and Wenger's concept of *community of practice* refers to learning at the social and community level (such as in research groups and within disciplines) rather than at the individual and personal level [5]. In this article, we study how the problems often faced in integrating qualitative and quantitative methods could be overcome when making scenarios for the future in a Delphi study. The community of practice is created by

- inviting researchers of both qualitative and quantitative domain as authors
- analysing research reports of seven cases where qualitative and quantitative material have been combined, and
- organising a workshop on the issue in an international scientific conference.

In the futures studies literature, qualitative methods have repeatedly been related to heuristic reasoning, whereas quantitative methods are understood as formal methods, typically mathematical modelling [6,7]. However, in practice quantitative methods have also been used for heuristic reasoning and, on the other hand, qualitative studies have been made in a rather formal and structured mode [8,9]. A few examples of this idea are given in Fig. 1.

There has been a tendency to mix up, on the one hand, qualitative research with subjectivity or even societal radicalism and, on the other hand, quantitative research with objectivity or conservatism, as Julien et al. have noticed [10]. Furthermore, the metaphors of *soft* and *hard* methods are also used, connoting the myths of feminine and masculine aspects of the world [7]. Only few references make the distinction between generating research material and the analysis of the research material. However, the majority of the literature on the Delphi method addresses only data gathering, whereas less emphasis has been laid on analysing the material. These aspects are summarised in Table 1.

We argue that it is a common misunderstanding to sum up the columns of Table 1 as two alternative and opposite paradigms, hermeneutics vs. positivism, or critical vs. technical, or humanistic vs. technocratic futures studies. It is possible to avoid these kinds of dichotomies and to generate fruitful research by combining various approaches from both columns in a way that works in the context of the study.

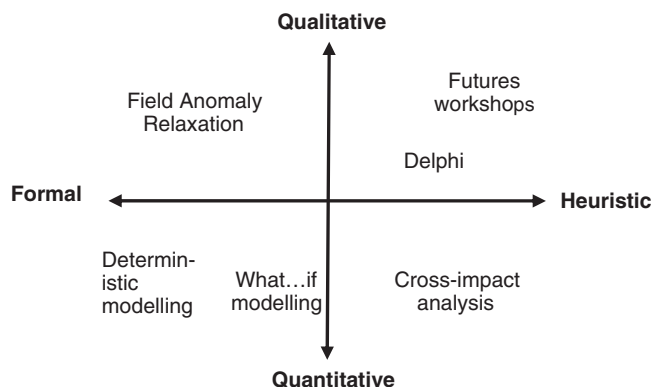


Fig. 1. Approaches in futures studies with exemplary methods (derived from [8,9]). Scenarios can be made with any of the approaches.

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