Chapter XII

Combining Qualitative and Quantitative Methods in IS in Healthcare Revisited

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Abstract

Using a variety of research methods provides several advantages. Through multiple methods, different kinds of data are collected, each set of which might provide partial information needed for a complete picture, thereby strengthening the robustness of research results. Research that combines qualitative and quantitative methods, though rare, provides an example of the benefits of multimethod studies. In this chapter, I describe three evaluation research studies that used a combination of qualitative and quantitative methods. In these studies, researchers produced results they would not have achieved if they had not combined methods. The first study is of a pioneering computer-based patient record and clinical decision support system, PROMIS. The second study is of a clinical laboratory information system. The third, a more recent study, evaluated an automated
telephone health behavior advisory system. The PROMIS study compared different groups using PROMIS and compared PROMIS users with those using a manual patient record. The laboratory information system and telephone advisory system studies explored differences among ostensibly the same users of the same technology, only to find that these users divided into groups that differed in their responses to the technologies. Such studies could point to considerations other than technology per se that are important in how individuals react to and use technologies. All three studies are examples of how multimethod research can produce significant results.

**Introduction**

Experimental designs and randomized controlled trials dominate in evaluating information systems in healthcare. Especially when combined with economic analyses, they are promoted as the way to conduct technology assessments and evaluations. Such approaches have an underlying positivistic epistemology (Kaplan, 2001). Similarly, positivism represents the predominant philosophical tradition in case research in information systems studies outside healthcare (Dubé & Paré, 2003).

Increasingly, though, researchers are recognizing the limitations of relying on any one method as the gold standard for evaluation. For example, although excellent in pinpointing what changed, experimental approaches make it hard to assess why changes occurred. Longer term field studies and more qualitative or interpretive approaches are better for investigating processes, multiple dimensions and directions of causality, and relationships among system constituents and actors. Further, experimental designs prove difficult for following changes as they are developing, or in determining system design and implementation strategies that are well-suited to particular institutional settings and societal considerations. Consequently, numerous evaluation researchers call for taking advantage of the many approaches and theories, each with its own strengths, available to evaluation researchers. Reliance on experimental designs-or on any one approach, for that matter-unnecessarily limits the kinds of results and understanding evaluation can produce.

In addition to calls for a broader selection from the repertoire of available
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