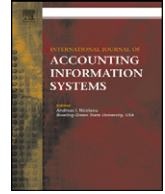




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# Exploring the use of the Delphi method in accounting information systems research

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### ABSTRACT

Recent focus on the diversity of research methodologies available to accounting information systems (AIS) scholars has led researchers to suggest the Delphi method has reached the limits of its usefulness. Using a review of the accounting and information systems literature, we suggest such a finding is premature for the AIS discipline. The Delphi method is especially useful in reducing ambiguity through the use of expert panels of both practitioners and experts and informing relevant and timely issues facing organizations. In essence, the Delphi method has potential to provide both rigor and relevance to AIS researchers. Our purpose is to review the prior literature on the use of the Delphi method and discuss potential areas of research within the AIS discipline where the method might add value. Based on this review, we develop a series of guidelines on how to properly develop, administer, and assess panel responses and then use an illustrative study example that explores IT risks in operations. We conclude with a discussion of the value of the Delphi method and provide insight into its limitations.

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## 1. Introduction

As a field of inquiry, accounting information systems (AIS) draws heavily from a wide variety of referent disciplines, including management information systems (MIS), organizational behavior, psychology, computer science and economics. Given this rich milieu, the AIS literature has diversity in phenomena, theoretical perspectives and methodological approaches. In a recent editorial on methodologies in AIS

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research, Nicolaou (2011) advocated a broad view of the AIS discipline and encouraged a conversation on alternative methods and theoretical approaches that have potential for informing AIS research. We wish to contribute to this conversation by providing an overview and discussion of the Delphi method, and how it might be used for exploratory research, theory building and forecasting.

The Delphi method is “intended for systematically soliciting, organizing and structuring judgments and opinions on a particularly complex subject matter from a panel of *anonymous* experts until a consensus is reached on the topic or until it becomes evident that further convergence is not possible” (Anderson et al., 1994, p478). The Delphi method is especially well-suited for exploratory, theory-building research efforts which involve complex, multi-disciplinary issues, especially if analyses of new or future trends are the focus of the research (Meredith et al., 1989; Neely, 1993; Akkermans et al., 1999, 2003; Daniel and White, 2005). Although the Delphi method has not seen widespread adoption in the AIS literature, this method does have distinct benefits when effectively paired with the appropriate research question and focal topic. For example, the Delphi method has been demonstrated to provide more accurate decisions than other group decision techniques, such as focus groups and nominal group technique (Rowe and Wright, 1999; Daniel and White, 2005). Our intention is not to suggest that one method is better than the other, but rather to provide an objective view of the method's strengths and weaknesses so that the researcher can make an informed decision on whether or not the Delphi method is the appropriate approach for her current inquiry.

This manuscript will unfold as follows. First, we will provide an overview of the Delphi method, to include its history and purpose. We will examine the use of the Delphi method in accounting and information systems research. Second, we will provide guidance on designing and executing Delphi studies, to include design considerations, expert panel selection, and quantitative and qualitative analyses. Third, we will present an example of a seeded, ranking-type Delphi study to illustrate the use of the method. This example explores the perceptions of IT risk among three key stakeholder groups: IT auditors, business managers, and IT managers. Fourth, we will discuss the strengths of the Delphi method and its value in theory building and exploratory analysis. Finally, we will conclude with the limitations of the Delphi method.

## 2. The Delphi method: an overview

### 2.1. History and characteristics

The Delphi method originated in the early 1950s at the RAND Corporation, a California-based think-tank (Dalkey and Helmer, 1963). Named for the famed Oracle at Delphi, there have been numerous implementations and variations on the original classical Delphi method and all share four core characteristics (Linstone and Turoff, 1975; Turoff and Hiltz, 1995). First, all employ a panel or group of panels composed of knowledgeable experts. Rather than attempting to assemble a statistically representative sample, the Delphi technique utilizes a purposely selected panel of experts to opine on a problem or situation. The rationale for this design choice is that a non-representative sample of experts is more apt to arrive at a correct decision that is a representative sample of non-experts (Rowe and Wright, 1999; Okoli and Pawlowski, 2004). Second, all members of the expert panel remain unknown to each other throughout the execution of the study (Linstone and Turoff, 1975; Turoff and Hiltz, 1995). Anonymity among the panelists was (and remains) crucial as a means of guarding against the effects of individual biases, personal influences and groupthink on the ability to reach consensus. Anonymity allows panelists to freely offer alternatives and expertise without fear of reprisals or judgment. In multiple round approaches, anonymity allows panelists to alter their opinions based on feedback from the panel without fear of losing credibility or status. Third, group communication is utilized to manage feedback and develop consensus among the expert panel (Linstone and Turoff, 1975; Turoff and Hiltz, 1995).

In early implementations of the Delphi method, communication between the expert panelists involved mailing paper-based surveys. This increased the time necessary to complete a multi-round Delphi, as well as the cost to the researcher. Panelist fatigue (i.e., the panelist grows weary with the time commitment and discontinues participation) is a concern in Delphi studies, with reliance on traditional mail increasing the risk associated with this method. More recently, web-based survey software and other information

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