

Chapter 24

Fundamentals of Delphi Research Methodology

Kaye Shelton

Lamar University, USA

Christine A. Haynes

Independent Researcher, Australia

Kathleen Adair Creggan

Columbus Independent School District, USA

ABSTRACT

Although the Delphi method was designed as a forecasting tool for the RAND Corporation in the 1950s, in the last several decades, this research methodology is commonly used for facilitating consensus in many fields such as business, education, and nursing. Because of the increased use of the Delphi method, more information is needed for researchers to precisely execute a successful Delphi study. This chapter briefly introduces the Delphi method, reviews the methodology, discusses types and variations in Delphi studies, addresses the advantages and limitations, and provides clear, step-by-step guidelines for employing a Delphi method research study.

INTRODUCTION

Delphi research method (Delphi Method) was originally developed for the RAND Corporation in the late 1950's and was primarily intended for military forecasting purposes during the Cold War (Dalkey & Helmer, 1963; Linstone & Turoff, 2002, 2011). However, Delbecq, Van de Ven, and Gustafson (1975) suggested that Delphi methodology could also be used to support judgmental decision-making, which could potentially support fields outside the military. In fact, Delbecq et al. (1975) asserted the Delphi Method could achieve the following objectives:

1. To determine or develop a range of possible program alternatives;

DOI: 10.4018/978-1-6684-3881-7.ch024

2. To explore or expose underlying assumptions or information leading to different judgments;
3. To seek out information which may generate a consensus on the part of the respondent group;
4. To correlate informed judgments on a topic spanning a wide range of disciplines, and
5. To educate the respondent group as to the diverse and interrelated aspects of the topic. (p. 11)

Later, Ziglio (1996) pointed out that because of the method's applicability to derive decisions made from expert judgments, multiple fields began using the methodology to support creative decision-making.

In the last six decades, the use of Delphi Method has increased to facilitate group communication and encourage consensus among a panel of experts on a selected topic such as curriculum decisions, strategic planning, and healthcare (Cuhls, 2004; Fischer, 1978; Hsu & Sandford, 2007; Linstone & Turoff, 2011; Twining, 1999). Moreover, Twining (1999) attributed an increase to the method's ability to the use computer-mediated conferencing and asynchronous online survey techniques. In fact, more advanced online survey tools and ready-to-use statistical software have made the Delphi Method much easier to facilitate.

A literature review revealed that nursing and healthcare, business, and education are the primary disciplines that use the Delphi methodology. However, within those disciplines, there are a variety of applications. For example, within education, the Delphi Method has been used for various topics that are best addressed by collective opinion or judgment such as curriculum planning and modifications, treatment planning, policy development, program evaluations, course evaluations, and strategic planning. In addition to healthcare, business, and education, the Delphi Method has also been used in societal policymaking, industry, and psychology (Linstone & Turoff, 2002; Moriarity, 2010). Although original studies were completed to forecast long-range trends (Dalkey & Helmer, 1963; Ziglio, 1996), many different applications of the Delphi methodology have since been developed (Okoli & Pawlowski, 2004; Ziglio, 1996). For example, Linstone and Turoff (2002) reported the following potential uses for the Delphi research method:

- Gathering current and historical data not accurately known or available
- Examining the significance of historical events
- Evaluating possible budget allocations
- Exploring urban and regional planning options
- Planning university campus and curriculum development
- Putting together the structure of a model
- Delineating the pros and cons associated with potential policy options
- Developing causal relationships in complex economic or social phenomena
- Distinguishing and clarifying real and perceived human motivations
- Exposing priorities of personal values, social goals. (p. 4)

In addition, Franklin and Hart (2007) suggested the following as best reasons for using the Delphi Method: researching an institutional or environmental phenomenon without previous history; a quickly changing event that outdates the literature; or a very complex phenomenon that truly requires experts for understanding.

Because of the increased use and application of the Delphi Method, more information is needed for researchers to understand how to best utilize the method and precisely complete a Delphi study. This chapter explores the Delphi Method's methodology including advantages and limitations, discusses

23 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/fundamentals-of-delphi-research-methodology/290807

Related Content

Understanding the January 6, 2021 Events

(2022). *Applying Mind Genomics to Social Sciences* (pp. 267-278).

www.irma-international.org/chapter/understanding-the-january-6-2021-events/305170

Electric Vehicle Fleet Management Using Ant Colony Optimisation

Javier Biera Murieland Abbas Fotouhi (2020). *International Journal of Strategic Engineering* (pp. 1-16).

www.irma-international.org/article/electric-vehicle-fleet-management-using-ant-colony-optimisation/243665

How Big Data Transforms Manufacturing Industry: A Review Paper

Victor I. C. Changand Wanxuan Lin (2019). *International Journal of Strategic Engineering* (pp. 39-51).

www.irma-international.org/article/how-big-data-transforms-manufacturing-industry/219323

Using Economic Decision-Making Tools in Continuous Improvement

Murtadha Albuali (2020). *International Journal of Strategic Engineering* (pp. 36-47).

www.irma-international.org/article/using-economic-decision-making-tools-in-continuous-improvement/243667

Scholarly Voice and Academic Identity: A Systematic Review of Doctoral Student Agency

Kenneth L. Rigler Jr., Christina Maria Anastasia, Abeni El-Aminand Robin Throne (2021). *Handbook of Research on Developing Students' Scholarly Dispositions in Higher Education* (pp. 63-89).

www.irma-international.org/chapter/scholarly-voice-and-academic-identity/285112