

Chapter 3 QUALITATIVE Workbook for a Delphi Study

Introduction (no heading is used for this section, as per APA)

A. Background Reading for This Section

None.

B. Critical Points to Address for this Section

Begin by stating the purpose of the chapter, how it fits in the dissertation, and the organization of the chapter. Briefly preview the Chapter III focus. Identify the major topical areas to be covered in the Chapter.

Restate the purpose of the study, consistent with information provided in Chapter I. Provide a brief synopsis of the research purpose using present tense. For example, “The purpose of the proposed qualitative modified Delphi study is to identify the level of consensus about the most effective approaches for addressing incoming college students’ level of math anxiety.

Briefly describe the method of inquiry used (qualitative), the research design chosen – Delphi, and the specific approach to conducting the study (e.g., a modified Delphi technique). Explain how the approach derives logically from the problem, the purpose, and the Research Questions. End with a transitional sentence to the Research Method and Research Design sections.

C. Considerations for Alignment

- The research purpose should match the statement of the purpose in the Chapter I Purpose Statement.
- The method of inquiry and the specific research design (qualitative, a specific type of Delphi approach) must match the information in Chapter I.

D. Suggested Resources for Enrichment

None.

In the box below, please write the section on the introduction.

Introduction

State your introduction, including the purpose of the Chapter and an overview of the contents, the purpose of the study, and the research method and research design.

Note to Student: Ensure that your entry is cohesive. The ideas should flow logically and with appropriate transitions between sentences.

E. Self Check Your Work to the Dissertation Handbook

Introduction

- Begins with the purpose of the chapter, how it fits in the dissertation, and the organization of the chapter
- Describes the method of inquiry used (qualitative)
- Describes the specific research methodology chosen and how it derives logical from the **Statement of the Problem** and the Research Questions

F. Tips from the Research Review Board

None.

Methodology Selected

A. Background Reading for This Section

Dissertation Field Guide

Chapter 7, Sections 7.1-7.2, pp. 102-109; Section 7.4, pp. 111-115, Section 7.5, pp. 115-119

Chapter 12, Section 12.1, p. 116-218

B. Critical Points to Address for this Section

In this section, you will describe and justify the qualitative research method. You will also describe and justify the decision to use a Delphi approach as your research design. You will also identify, describe, and justify a specific type of Delphi approach.

Although Delphi studies typically involve mixed data – narrative and numeric – the method itself is usually qualitative. In Delphi studies, numeric data

typically serve a qualitative purpose and qualitative research objectives. The researcher answers one or more qualitative research questions by collecting and analyzing narrative and/or numeric data.

First you will demonstrate your understanding of the nature of qualitative research. Rather than providing an extensive tutorial, you should demonstrate your understanding of how the qualitative research method supports inductive inquiry about a problem or situation. Avoid describing what qualitative researchers do, instead focusing on the nature of qualitative research. Back all statements with major and foundational sources in qualitative research.

Describe how the problem that drives your research indicates the need for a qualitative investigation in order to generate information to resolve the problem. Explain why a qualitative study is most appropriate.

Describe how the qualitative method is congruent with the purpose of your study. Explain why conducting a qualitative study will support achieving the research purpose. Avoid circular reasoning. Instead, explain how the nature of qualitative research, as described in Section 12.1 of the *Dissertation Field Guide*, aligns with the information needed to achieve the purpose of your study. Draw connections between the aspects of qualitative research described in the table and the aspects of your study purpose. Do not provide detail on other methodological decisions, which you will cover in later sections of the chapter.

Next, you will provide an elaborate description and justification of Delphi research. Describe the nature of Delphi research and how it differs from other qualitative research designs. Explain how the use of a Delphi approach will address the research problem.

Describe how a Delphi design is congruent with the purpose of your study. Explain why conducting a Delphi study will support achieving the research purpose. Avoid circular reasoning. Instead, explain how the nature of Delphi research, as described in Table 7.5 of the *Dissertation Field Guide* and in the sources you've been reading, aligns with the information needed to achieve the purpose of your study.

Draw connections between the purpose of Delphi research and your study purpose. Do not provide detail on other methodological decisions, such as the data analysis plan, which you will cover in later sections of the chapter. Next, explain the congruence between your research questions and the nature of Delphi research.

Once you've justified the appropriateness of conducting a Delphi study, you need to reflect your understanding of the various approaches to a Delphi design and which specific approach is optimal for the proposed study. Delphi approaches

include but are not limited to classical, modified, policy, decision, and e-Delphi. Describe and justify the choice of a specific type of Delphi approach.

Align your decision to choose a particular type of Delphi approach with the specific problem that drives your research focus and the purpose of the study. First, describe how the problem that drives your research indicates the need to determine consensus, solutions, forecasting, etc., in order to resolve the problem. Explain why a particular type of Delphi study is most appropriate to address the problem. Explain why that Delphi approach is the best way to achieve the research objectives.

Read and cite sources in Delphi research to support your design choice and develop deep understanding of Delphi and its application in a research study. Do not rely on general research textbooks.

As you write other sections of Chapter III, keep in mind that the methodological decisions you will make about your particular study must reflect the nature of qualitative Delphi research. The decisions must align with the application of the Delphi approach you have selected and with your research problem, your research objectives, and your research questions. Use the sources identified above to support methodological decisions later in the chapter.

Another thing you should keep in mind is that you should describe the methodological plan – what will occur – rather than who will be implementing each stage of the study. Students are often tempted to model their chapters after research textbooks, which describe what researchers do. You should focus on describing the methodology, not the actor. “The researcher” as actor is implicit.

C. Considerations for Alignment

- Alignment means congruence between and across all elements of a study, from the problem and purpose to the research questions, research method, research design, and research methodology.
- Good alignment is critical.
- The qualitative method must be appropriate to address the specific problem that drives the research focus.
- A Delphi design and a specific type of Delphi approach must be appropriate to address the specific problem that drives the research focus.
- A qualitative method, Delphi design, and specific type of Delphi approach must be congruent with the research purpose and the form of the research questions.

D. Suggested Resources for Enrichment

- Adler, M., & Ziglio, E. (1996). *Gazing into the oracle: The Delphi Method and its application to social policy and public health*. London, England: Jessica Kingsley Publishers.
- Bourgeois, J., Pugmire, L., Stevenson, K., Swanson, N., & Swanson, B. (2006). *The Delphi method: A qualitative means to a better future*. Retrieved from http://www.freequality.org/sites/www_freequality_org/Documents/knowledge/Delphimethod.pdf#search=%22Laura%20Pugmire%20Delphi%22
- Davidson, P. L. (2013). The Delphi technique in doctoral research: Considerations and rationale. *Review of Higher Education & Self Learning*, 6(22). Retrieved from http://research.phoenix.edu/sites/default/files/publication-files/The%20Delphi%20technique%20in%20doctoral%20research_1.pdf
- Day, J., & Bobeva, M. (2005). A generic toolkit for the successful management of Delphi studies. *Electronic Journal of Business Research Methodology*, 3(2), 103-116. Retrieved from <http://www.ejbrm.com/main.html>
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2008). *Collecting and interpreting qualitative materials* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2008). *The landscape of qualitative research* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2008). *Strategies of qualitative inquiry* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Gupta, U. G., & Clarke, R. E. (1996). Theory and applications of the Delphi technique: A bibliography (1975–1994). *Technological Forecasting and Social Change*, 53(2), 185-211. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0040162596000947>
- Hasson, F., & Keeney, S. (2011). Enhancing rigour in the Delphi technique research. *Technological Forecasting and Social Change*, 78(9), 1695-1704. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0040162511000801>
- Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the Delphi survey technique. *Journal of Advanced Nursing*, 32(4), 1008-1015. Retrieved from http://www.researchgate.net/profile/Sinead_Keeney/publication/12233148_Research_guidelines_for_the_Delphi_survey_technique/links/550168a10cf2de950a726643.pdf
- Hsu, C.-C., & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical Research, Evaluation, and Assessment*, 12, 1-8. Retrieved from <http://pareonline.net/pdf/v12n10.pdf>

- Keeney, S., Hasson, F., & McKenna, H. (2006). Consulting the oracle: Ten lessons from using the Delphi technique in nursing research. *Journal of Advanced Nursing*, 53(2), 205-212. Retrieved from http://www.researchgate.net/profile/Sinead_Keeney/publication/7349420_Consulting_the_oracle_ten_lessons_from_using_the_Delphi_technique_in_nursing_research/links/00b7d52d9125c5ed97000000.pdf
- Linstone, H. A., & Turoff, M. (2002). *The Delphi method: Techniques and applications*. Retrieved from <http://is.njit.edu/pubs/delphibook/delphibook.pdf>
- Mullen, P. M. (2003). Delphi: Myths and reality. *Journal of Health Organization and Management*, 17(1), 37-52. Retrieved from <http://www.emeraldinsight.com/doi/abs/10.1108/14777260310469319>
- Nowack, M., Endrikat, J., & Guenther, E. (2011). Review of Delphi-based scenario studies: Quality and design considerations. *Technological Forecasting and Social Change*, 78(9), 1603-1615. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0040162511000576>
- Nworie, J. (2011). Using the Delphi technique in educational research. *TechTrends*, 55(5), 24-30. doi:10.1007/s11528-011-0524-6
- Okoli, C., & Pawlowski, S. D. (2004). The Delphi method as a research tool: An example, design considerations and applications. *Information & management*, 42(1), 15-29.
- Ozier, W. (n.d.). 85-10-10 - *The Delphi/Modified Delphi technique: A Consensus approach to information valuation*. Retrieved from <http://www.ittoday.info/AIMS/DSM/85-10-10.pdf>
- Romano, A. R. (2010). Malleable Delphi: Delphi research technique, its evolution, and business applications. *International Review of Business Research Papers*, 6(5), 235-243. Retrieved from <http://www.bizresearchpapers.com/>
- Rowe, G., & Wright, G. (1999). The Delphi technique as a forecasting tool: Issues and analysis. *International Journal of Forecasting*, 15(4), 353-375. Retrieved from <http://www.journals.elsevier.com/international-journal-of-forecasting/>
- Schram, T. H. (2006). *Conceptualizing and proposing qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson.
- Shank, G. D. (2006). *Qualitative research: A personal skills approach* (2nd ed.). Upper Saddle River, NJ: Pearson.

- Shelton, K., & Creghan, K. A. (2014). Chapter 19: Demystifying the Delphi method. In V. C. Wang (Ed.), *Handbook of research on scholarly publishing and research methods* (pp. 375-395). Retrieved from https://books.google.com/books?id=XScdBgAAQBAJ&pg=PA375&lpg=PA375&dq=Demystifying+the+Delphi+Method.&source=bl&ots=Kp2Dfx7NdR&sig=5vCr826_9gZ4dfxKtxY2NnZib1A&hl=en&sa=X&ved=0CDYQ6AEwBGoVChMIurTgks2UxgIVA2CtCh3vpQaI#v=onepage&q=Demystifying%20the%20Delphi%20Method.&f=false
- Skulmoski, G. J., Hartman, F. T., & Krahn, J. (2007). The Delphi method for graduate research. *Journal of Information Technology Education*, 6, 2. Retrieved from <http://www.jite.org/documents/Vol6/JITEv6p001-021Skulmoski212.pdf>
- Thompson, M. (2009). Considering the implication of variations within Delphi research. *Family Practice*, 26(5), 420-424. Retrieved from <http://fampra.oxfordjournals.org/>
- Vernon, W. (2009). The Delphi technique: A review. *International Journal of Therapy and Rehabilitation*, 16(2), 69-76. Retrieved from <http://www.magonlinelibrary.com/doi/abs/10.12968/ijtr.2009.16.2.38892>
- von der Gracht, H. A. (2008). The Delphi technique for futures research. *The Future of Logistics: Scenarios for 2025*, 21-68. Retrieved from http://link.springer.com/chapter/10.1007/978-3-8349-9764-7_3

In the box below, please write the section on the Methodology Selected

Methodology Selected

Identify and describe the research method in detail.

Justify the research method.

Identify and describe the research design in detail.

Justify the research design.

Demonstrate that the research method and the research design derive logically from the problem statement and are appropriate to achieve the purpose and answer the research questions.

Support your methodological decisions with major and foundational sources.

Note to Student: Ensure that your entry is cohesive. The ideas should flow logically and with appropriate transitions between sentences.

E. Self Check Your Work to the Dissertation Handbook

- _____ Describes which qualitative methodology will be used
- _____ Justifies choice of methodology using major and foundational sources
- _____ Explains why other possible choices would be less effective
- _____ Describes the role of the researcher in the data collection procedure
- _____ Addresses the potential impact and minimization of researcher bias through methodological approaches

F. Tips from the Research Review Board

Describes and justifies the research method and design as appropriate to the problem, purpose, and research questions/hypotheses.

The methodology description in Chapter 3 aligns fully and is consistent with methodology description in Chapter 1.

Methodology description is aligned across chapters, consistent, clear, and detailed.

Research Questions

A. Background Reading for This Section

Dissertation Field Guide, Chapter 5, Sections 5.1 -5.8, pp. 55-72 (focus on inductive and future-oriented questions)

B. Critical Points to Address for this Section

In a Delphi study, you will have one or two central research questions. You may have several research subquestions pertaining to different aspects of your research purpose. You first developed and proposed broad, open research questions in your Letter of Intent. In Chapter 1, you described and justified the form and focus of your research questions.

In Chapter III, you will restate your research question(s) and subquestions, which must match your research questions as stated in Chapter I. A common mistake students make is to change the research questions in one chapter but not revise them in the other places they appear in the proposal. For example, your

research questions must reflect a consistent focus. Thus, if you revise your research questions in Chapter III, you should go back to Chapter I and update the research questions accordingly.

Briefly explain how answering the research questions will address the problem, research objectives, and purpose of the study. Then briefly explain how answering the research questions will address the knowledge gap in the literature. The knowledge gap should match the knowledge gap you identified in Chapter I and in the literature review in Chapter II.

C. Considerations for Alignment

- Research questions must inform the gaps identified in the literature
- The potential answers to the research questions must contribute toward addressing the problem and achieving the research objectives.
- The focus of the research questions must address the purpose
- The research questions must be broad and open-ended
- Research questions must be consistent across chapters

D. Suggested Resources for Enrichment

Linstone, H. A., & Turoff, M. (2002). *The Delphi method: Techniques and applications*. Retrieved from <http://is.njit.edu/pubs/delphibook/delphibook.pdf>

Schram, T. H. (2006). *Conceptualizing and proposing qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson.

Shelton, K., & Creghan, K. A. (2014). Chapter 19: Demystifying the Delphi method. In V. C. Wang (Ed.), *Handbook of research on scholarly publishing and research methods* (pp. 375-395). Retrieved from https://books.google.com/books?id=XScdBgAAQBAJ&pg=PA375&lpg=PA375&dq=Demystifying+the+Delphi+Method.&source=bl&ots=Kp2Dfx7NdR&sig=5vCr826_9gZ4dfxKtxY2NnZib1A&hl=en&sa=X&ved=0CDYQ6AEwBGoVChMIurTgks2UxgIVA2CtCh3vpQaI#v=onepage&q=Demystifying%20the%20Delphi%20Method.&f=false

In the box below, please write the section on Research Questions

Research Questions

Restate your research questions, which must match your research questions as stated in Chapter I.

Briefly justify the alignment of the research questions to the research objectives, purpose, and the knowledge gap.

E. Self Check Your Work to the Dissertation Handbook

Research Questions

_____ Describes specific research questions and sub-questions (where appropriate) that are

_____ Clear and succinct

_____ Congruent with the **Statement of Problem**

_____ Answerable

_____ Few in number

_____ Clearly stated

_____ Open-ended (*not* yes/no questions)

F. Tips from the Research Review Board

The research questions are open-ended and align with the purpose and the type of Delphi study.

Population and Sampling

A. Background Reading for This Section

Dissertation Field Guide, Chapter 10, Sections 10.1 – 10.10, pp. 172-178; Chapter 12, Section 12.4, pp. 223-225.

B. Critical Points to Address for this Section

The specific population in a Delphi study is the body of human subjects from which you will select a sample or conduct a census. Delphi studies typically involve stakeholders with strong interest and/or expertise in the topic. The stakeholder population may be homogenous, such as school principals, or heterogeneous, such as teachers, aides, parents, and administrators in primary (K-6) schools.

In this section, you will identify and describe the specific population for your study, which must match the population you identified in Chapter I. For example, the specific population may be nurse managers and registered nurses in children's hospitals in the northeastern United States and the parents of hospitalized children. Describe the population characteristics, such as known demographic information or other descriptive traits of the population.

Some populations are publicly accessible, such as parents encountered in a public park. Other populations, such as employees, teachers, students, association members, social media group members, etc., are accessible via organizational permission. **If an expert will be solicited through his or her organization and participating as an employee, organizational permission is required; however, you will not need organizational permission for persons who qualify as experts based on their profession but will not be solicited through or participate as an employee of the organization.** Indicate whether the population is publicly accessible, or if the population will be accessed with permission. You should also identify the size of the available population.

Once you have described the population and the plan to access it, you will identify and describe the major type of sampling approach – probability or nonprobability) you plan to use to select your sample from the population. Then identify and describe the specific sampling technique, such as simple random sampling (probability) or purposive sampling (nonprobability). In Delphi studies, expert or purposive sampling are common in order to select stakeholders who meet certain criteria aligned with interest or expertise. **Explain what constitutes an expert stakeholder for the study. Provide specific criteria, such as qualifications, experience, knowledge, etc. Justify these criteria and their appropriateness to the focus of the study.**

Align the sample size proposed and its justification with the type of panel – homogenous or heterogeneous. You will need to identify and justify the anticipated sample size(s) for each type of participants. For example, if you plan to collect data from managers and non-management employees, you will need to identify the

estimated sample size for both categories of participants. The sample size must be sufficient to (a) achieve data saturation if you intend to collect and analyze narrative data in Round 1; and (b) determine the level of agreement or consensus after three or four rounds of data collection.

C. Considerations for Alignment

- The specific population must match the population identified in Chapter I
- The population must be appropriate to answer the research questions.
- The sampling criteria should not exceed the characteristics of the population.
- The justification of the sample size must be sufficient to achieve data saturation in Round 1 (if appropriate) and determine the level of agreement or consensus after three or four rounds of data collection.

D. Suggested Resources for Enrichment

Daniel, J. (2012). Chapter 2: Choosing between taking a census and sampling. In *Sampling essentials: Practical guidelines for making sampling choices*.

Hsu, C.-C., & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical Research, Evaluation, and Assessment*, 12, 1-8.
Retrieved from <http://pareonline.net/pdf/v12n10.pdf>

Mugo, F. W. (n.d.). *Sampling in research*. Retrieved from https://www.uonbi.ac.ke/fridah_mugo/files/mugo02sampling.pdf

Schram, T. H. (2006). *Conceptualizing and proposing qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson.

Shank, G. D. (2006). *Qualitative research: A personal skills approach* (2nd ed.). Upper Saddle River, NJ: Pearson.

von der Gracht, H. A. (2008). The Delphi technique for futures research. *The Future of Logistics: Scenarios for 2025*, 21-68. Retrieved from http://link.springer.com/chapter/10.1007/978-3-8349-9764-7_3

In the box below, please write the section on Population and Sample

Population and Sample

Identify and describe the specific population and its source. Identify permission to access the population, if needed. Describe and justify the sampling technique(s), appropriateness, and sampling characteristics. Identify and justify the sufficiency of the sample to achieve data saturation for a narrative round, if applicable, and to support identifying the level of consensus.

Note to Student: Ensure that your entry is cohesive. The ideas should flow logically and with appropriate transitions between sentences.

E. Self Check Your Work to the Dissertation Handbook

Study Participants

- _____ Describes and justifies the context (including site) for the study
- _____ Clearly defines both the general study population and the specific population
 - _____ Demonstrates (and documents) the ability to access the population
 - _____ Describes and justifies the sampling approach
 - _____ Describes how the characteristics of the sample align with the general population
 - _____ Discusses how the sample selection impacts the generalizability of the study
 - _____ Identifies strategies for recruiting participants
 - _____ Specifies appropriate criteria for selecting participants
- _____ Addresses the relationship between the researcher and the participants
- _____ Justifies the number of participants

F. Tips from the Research Review Board

Clearly describes the population and how it is being accessed.

The sampling approach is clearly identified and the sample size is justified and sufficient to achieve data saturation in the first round and to identify the level of consensus in the final round.

Ethical Concerns

A. Background Reading for This Section

Dissertation Field Guide

Chapter 11, Section 11.6 Informed Consent, Anonymity, and Confidentiality Issues in Quantitative Research, pp. 198-199 (read information pertinent to online data collection).

Chapter 12, Section 12.5, Informed Consent, Anonymity, and Confidentiality Issues in Qualitative Research, pp. 225-227.

B. Critical Points to Address for this Section

In this section, you will describe processes and procedures for protection of human subjects and confidentiality and privacy. First, identify and describe procedures proposed for the protection and ethical treatment of human subjects. Delphi studies rarely involve protected classes or collecting sensitive or personal information. If participants belong to a protected class, or are vulnerable, or if the study involves collecting any personal or sensitive information, explain and justify the risks in light of the potential benefits. Explain how the level of risk will be minimized to the extent possible.

Describe the two-part informed consent process – (a) how potential participants will learn about the nature of the proposed study and their involvement in it, and (b) how they will indicate their active informed consent, such as via an ink signature or an online survey portal. Do not use a passive consent process, such as returning a completed survey, as the IRB will not approve it. Keep in mind that no data collection may occur prior to receipt of informed consent, including data for screening purposes.

Next, describe all procedures to protect confidentiality and privacy during data collection and analysis. Explain whether the data will be collected anonymously or if identifiers will be assigned to participants and their data.

Explain how privacy and confidentiality will be protected when reporting the results. Explain who will have access to the data, for what purpose, and how access will be limited. Describe the plans for data storage.

C. Considerations for Alignment

- The descriptions of the nature of the study, the risks and benefits, and the processes and procedures match the types of data to be collected and the data collection techniques described throughout the proposal.
- The risks should not outweigh the benefits

D. Suggested Resources for Enrichment

Dissertation Field Guide, Chapter 13
CITI Training Modules

In the box below, please write the section on Ethical Concerns

Ethical Concerns

Identify and describe procedures for the protection and ethical treatment of human subjects. Describe the two-part informed consent process – information then consent.

Describe all procedures to protect confidentiality and privacy during data collection and analysis and in reporting and storage.

Note to Student: Ensure that your entry is cohesive. The ideas should flow logically and with appropriate transitions between sentences.

E. Self Check Your Work to the Dissertation Handbook

Ethical Concerns

_____ Provides adequate measures for ethical protection of participants

_____ Includes detailed information about the informed consent process and how informed consent will be obtained

_____ Includes detailed information about how confidentiality is addressed

F. Tips from the Research Review Board

All processes and procedures are clearly described.

Data Collection and Instrumentation

A. Background Reading for This Section

Dissertation Field Guide

Chapter 11, Sections 11.7 Instrumentation, pp. 202, “Developing or Modifying an Instrument”; 11.8, Data Collection Techniques, Logistics, and Format, pp. 203-205.

Chapter 12, Sections 12.6, p. 229, “Focus Groups” and “Questionnaires” ; 12.7, “Interview Protocols,” pp. 231-232 (focus on the nature of the questions).

B. Critical Points to Address for this Section

In this section, you will describe and justify the types of data you will collect, the techniques you propose to collect these data, and the instrumentation you will use. First, describe the specific types of data to be collected. For example, typical types of data in Delphi studies include narrative data, scaled response data (rating), and rank order data.

Delphi studies typically include three or more rounds of data collection, with the results of data analysis of each round of data informing creation of the instrument for the subsequent round. Describe the plan to collect these data, step by step, from beginning to end. **Consider whether consensus may emerge from the analysis of responses to questions/items, via some combination of analysis of responses to individual questions/items, or at the level of the research questions.**

Describe and justify the specific data collection techniques proposed, such as an online or pencil and paper survey questionnaire. Describe how the technique aligns with the instrument(s) to be used to collect the data. Use sufficient detail so that another researcher could replicate the data collection plan. For example, subjects might click on an email to access a URL with a web-based survey hosted on SurveyMonkey. Participants will indicate their informed consent to access the survey, the survey questions will load, and the participant will select responses.

Upon completion of the survey, the participant will click “submit.” Once data collection is complete, the data will be accessed in Excel format from the web host. Many Delphi studies involve use of a web-hosted survey platform, such as SurveyMonkey, PsychData, or Qualtrics.

In this section, you will describe and justify the instrumentation for the various rounds in your Delphi study and the concepts to be measured using these instruments. You will also address how you will assess instruments with scaled responses for evidence of internal consistency reliability.

Identify and describe the instruments to be used to collect data from your expert panel. Identify the specific type of instrument for each round, such as a survey questionnaire with open-ended questions for Round 1, a survey questionnaire with statements to be rated on a 5-point Likert-type agreement scale for Round 2, and a survey questionnaire with statements to be ranked in order of importance for Round 3. Identify the questions proposed for the first round of data collection. Provide examples of the types of questions that will be used for subsequent rounds. **Think about how the Round 1 questions map back to the research questions that will guide the overall inquiry and be answered through data collection and analysis.**

If you are going to replicate a Delphi study using existing instruments, and/or are planning to modify those instruments, cite the author(s) and identify that permission is granted. Append copies of those instruments to the proposal.

Present a detailed plan to examine the instruments for evidence of face validity. Explain how you will examine instruments with scaled response questions for evidence of internal consistency reliability within and across question categories.

C. Considerations for Alignment

- The types of data identified must match what the instruments are intended to measure
- The number of instruments must be congruent with the number of rounds of data collection proposed
- The data collection techniques must be appropriate to the type(s) of data to be collected
- The data collection techniques must be consistent across the proposal

D. Suggested Resources for Enrichment

- Gliem, J. A., & Gliem, R. R. (2003). *Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales*. Paper presented at the Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education, The Ohio State University, Columbus, OH, October 8-10, 2003. Retrieved from <http://pioneer.netserv.chula.ac.th/~ppongsa/2013605/Cronbach.pdf>
- Holey, E. A., Feeley, J. L., Dixon, J., & Whittaker, V. J. (2007). An exploration of the use of simple statistics to measure consensus and stability in Delphi studies. *BMC medical research methodology*, 7(1), 52.
- Heitner, K. L., Kahn, A. E., & Sherman, K. C. (2013). Building consensus on defining success of diversity work in organizations. *Consulting Psychology Journal - Practice and Research*, 65(1), 58-73. doi:10.1037/a0032593
- Hsu, C.-C., & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical Research, Evaluation, and Assessment*, 12, 1-8. Retrieved from <http://pareonline.net/pdf/v12n10.pdf>
- von der Gracht, H. A. (2008). The Delphi technique for futures research. *The Future of Logistics: Scenarios for 2025*, 21-68. Retrieved from http://link.springer.com/chapter/10.1007/978-3-8349-9764-7_3

In the box below, please write the section on Data Collection

Data Collection

Describe the types of data to be collected. Describe the plan to collect these data, step by step. Describe and justify the specific data collection techniques proposed, explaining how you will use the instrument(s) to collect the data. Use sufficient detail so that another researcher could replicate the data collection plan.

Identify and describe the instruments to be used to collect data and their appropriateness to the research questions and the multiple rounds of data collection.

Describe the plan to face validate open-ended questions and examine scaled instruments for evidence of internal consistency reliability.

Note to Student: Ensure that your entry is cohesive. The ideas should flow logically and with appropriate transitions between sentences.

E. Self Check Your Work to the Dissertation Handbook

Data Collection

- _____ Describes and justifies the data collection method(s)
- _____ Addresses what types of data will be collected and the unit(s) of analysis
- _____ Includes detailed protocol(s) in appendix for data collection
- _____ Justifies contents of data collection protocols by connection to the research questions posed in relation to the qualitative paradigm chosen
- _____ Clearly describes the process by which the data was generated, gathered, and recorded
- _____ Clearly describes the systems used for keeping track of data and emerging understandings (research logs, reflective journals, and cataloging systems)

Procedures Followed

- _____ States the sequence of steps followed in conducting the research from development of the research instrument(s) to data analysis
- _____ Details all steps in a way that another researcher could follow the steps to reproduce the study
- _____ Explains the relation of the pilot study to the full study

F. Tips from the Research Review Board

Technique is described and is justified.

All instrumentation is described clearly. Pilot test is proposed for any instrumentation lacking prior validation. Face validation will occur for observation protocols.

Data Analysis

A. Background Reading for This Section

Dissertation Field Guide

Chapter 11, 11.9, p. 206, “Descriptive Statistics.”

Chapter 12, Section 12.8, pp. 234-236.

B. Critical Points to Address for this Section

First, in an introductory paragraph, preview the section focus and content. Then identify which specific descriptive statistics (e.g., frequency counts/percentages, cross-tabulations, specific measures of central tendency and variability) will be used to describe the sample, as appropriate to their level of measurement. See *Dissertation Field Guide*, Table 11.5, for an example.

If your Delphi study involves collecting and analyzing narrative responses to open-ended questions to be collected in one or more rounds, provide a detailed description of how you will analyze these narrative data. Describe a detailed coding plan for identifying patterns and themes in the narrative data. Under Data Collection, you will explain how these results of the narrative analysis will inform the next round of the study.

If your study involves collecting numeric data to be measured on a Likert-type scale, identify which descriptive statistics (i.e., frequency counts/percentages and the median) you will calculate for each of the survey items. Then explain how you will determine which items you will select for the subsequent round, such as based on the top two percentages (combined percentage of agree/strongly agree) and the median. Provide a basis for the cut-offs to be used. If any of your survey rounds involves ranking, explain how you will analyze and describe the rankings.

Explain how you will determine which round is the final, e.g., when sufficient agreement exists. Explain how you will use the final round results to generate answers to the research questions.

C. Considerations for Alignment

- The descriptive statistical procedures proposed must be appropriate to the level of measurement of the variables
- The proposed analyses must be congruent with the phases of the study described under data collection and types of data and questions/items/scales on the instruments for each phase
- The data analysis plan must explicitly address answering the research questions.

D. Suggested Resources for Enrichment

- Heitner, K. L., Kahn, A. E., & Sherman, K. C. (2013). Building consensus on defining success of diversity work in organizations. *Consulting Psychology Journal - Practice and Research*, 65(1), 58-73. doi:10.1037/a0032593
- Hsu, C.-C., & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical Research, Evaluation, and Assessment*, 12, 1-8. Retrieved from <http://pareonline.net/pdf/v12n10.pdf>
- von der Gracht, H. A. (2008). The Delphi technique for futures research. *The Future of Logistics: Scenarios for 2025*, 21-68. Retrieved from http://link.springer.com/chapter/10.1007/978-3-8349-9764-7_3

In the box below, please write the section on Data Analysis

Data Analysis

Describe and justify your data analysis plan in terms of descriptive statistical analyses to describe the sample characteristics.

If the first round involves open-ended questions, describe and justify a detailed plan for analyzing narrative response data.

For each round involving numeric survey data, describe and justify your data analysis plan in terms of descriptive statistical analyses to describe numeric data, whether Likert-type scale data or rankings. Explain and justify the cut-offs for moving items from one round to a subsequent round.

Explain how the analysis will address the research questions.

Note to Student: Ensure that your entry is cohesive. The ideas should flow logically and with appropriate transitions between sentences.

E. Self Check Your Work to the Dissertation Handbook

Data Analysis

- _____ Articulates how and when the data will be or was analyzed
- _____ Aligns the detailed data analysis plan with the specific research design to generate answers to the research questions
- _____ Describes procedures for dealing with discrepant cases
- _____ If a software program was used to aid analysis, clearly describes how it was used
- _____ Gives details about the coding procedure and how themes or categories were developed
- _____ Descriptive statistical procedures

F. Tips from the Research Review Board

Data analysis plan is clear, appropriate, and aligned with the specific research design, research questions, and hypotheses.

Validity

A. Background Reading for This Section

Dissertation Field Guide, Chapter 12, Section 12.9, *Validity Concerns in Qualitative Studies*, pp. 237-212.

B. Critical Points to Address for this Section

In this section, you will identify and describe threats to trustworthiness - dependability, credibility, confirmability, and transferability. Even though a qualitative Delphi study usually involves collecting and analyzing numeric data, traditional validity concerns affecting quantitative and mixed methods studies do not apply. Instead, students must identify and describe qualitative validity threats and how their impact will be minimized to the extent possible.

For each of the components of validity identified above, explain each threat as it applies to the specifics of your study. Avoid providing a tutorial on qualitative validity. Instead, describe each threat as it pertains to your study and which strategies you propose to address it. Two important threats students often overlook are researcher bias – which is ever present in qualitative research – and social desirability. Make sure to address both of these threats in your validity discussion.

C. Considerations for Alignment

- Threats to validity are pertinent to qualitative research.
- Threats to validity are specific to the nature of the study – the population, sampling, instrumentation, the role of the researcher in data collection and analysis, etc.
- Be explicit in connecting threats to validity to the nature of the proposed study

D. Suggested Resources for Enrichment

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4), 597-606.

Landeta, J. (2006). Current validity of the Delphi method in social sciences. *Technological forecasting and social change*, 73(5), 467-482.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, 1(2), Article 2. Retrieved from <http://www.ualberta.ca/~ijqm/>

Shank, G. D. (2006). *Qualitative research: A personal skills approach* (2nd ed.). Upper Saddle River, NJ: Pearson.

Trochim, W. M. K. (2006). *Qualitative validity*. Retrieved from <http://www.socialresearchmethods.net/kb/qualval.php>

In the box below, please write the section on Validity

Validity

Describe threats to validity as they pertain to qualitative studies, including trustworthiness (dependability, credibility, confirmability, and transferability), researcher bias, and social desirability bias.

Describe methodological strategies to address these threats.

Note to Student: Ensure that your entry is cohesive. The ideas should flow logically and with appropriate transitions between sentences.

E. Self Check Your Work to the Dissertation Handbook

Trustworthiness

_____ Addresses credibility, transferability, dependability, and confirmability

_____ Shows evidence of quality by discussing how procedures will be/were followed to assure the accuracy of the data and lessen the impact of researcher bias (e.g., trustworthiness, member checks, triangulation, etc.)

_____ Describes the role of the researcher in the data collection procedure

_____ Addresses the potential impact and minimization of researcher bias through methodological approaches

F. Tips from the Research Review Board

Student describes threats to validity and how they will be addressed.

Summary

A. Background Reading for This Section

None.

B. Critical Points to Address for this Section

In this section, you will summarize key points in Chapter III. Summarize the proposed methodological plan for implementing the proposed research study to achieve the research purpose and generate answers to the research questions. Do not present any new information. Instead, briefly summarize the research method, the research design, and their appropriateness to the problem, purpose, and research questions.

Briefly summarize the population, the sample, the type(s) of data to be collected in each round, the number of rounds, and the data collection techniques. Identify the instrumentation. Briefly summarize the proposed analyses. End with a transition to Chapter IV.

C. Considerations for Alignment

- All information in the summary must be consistent with methodological decisions identified and described in the chapter.

D. Suggested Resources for Enrichment

None.

In the box below, please write the section on Summary

Summary

Summarize key points from Chapter III pertaining to the proposed methodological plan for implementing the study. End with a transition to Chapter IV.

Note to Student: Ensure that your entry is cohesive. The ideas should flow logically and with appropriate transitions between sentences.

E. Self Check Your Work to the Dissertation Handbook

Summary

- Summarizes key points in the chapter
- Transitions to Chapter IV
- Conforms to the recommended length of 10-25 pages for Chapter III.

F. Tips from the Research Review Board

None.