

DOCTORATE OF INFORMATION TECHNOLOGY

DISSERTATION JOB AID

The purpose of this mentoring tool / dissertation job aid is to provide guidance for Doctorate of Information Technology mentoring process with **scripts, tools, and checklists that align to milestone work in DIT9940** and research skill building in DB 8020 and DB 8050. The DIT Dissertation Job Aid is a simple guide, exceptions may apply in uncommon research approaches approved by mentors.

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DISCOVERING YOUR TECHNICAL BUSINESS PROBLEM FOUNDATION

As scholar practitioners, you must brainstorm technical problems that impact positively or negatively the business environment. Make sure you are thinking overall systems impact and not simply technology as a tool. Here we are framing technical issues that impact the business problem.

WHAT IS A PROBLEM STATEMENT?

The research problem or issues simply states to the reader what you plan on addressing in the qualitative dissertation. In this area you are presenting the reader with an argument as to why your dissertation study is important.

BRAINSTORMING POTENTIAL TECHNICAL BUSINESS PROBLEMS

Your brainstorming is captured relevant materials that build a foundation of WHY your topic is value to WHOM by using the following type of publications: trade journals, scholarly research, peer review articles, and etc.

Your problems at work may not be topics worthy of research for the following reasons:

- 1 - Scope is usually too narrow and may not be of interest to those outside your organization.
- 2- Problem may already have a published solution, which you may not be aware of.
- 3 – If you experience a job transition you might not have access to the sample population
- 4 – Negative findings to share with your boss may result in political hurdles on the job

The best sources where you are going to find researchable topics are in research journals where authors discuss the limitations of their research or the issues that they propose for further studies. In Information technology research literature, you will find topics relevant to your experience, although their scopes are much wider and appeal to all IT professionals.

Use an organized approach to visualize this information.

Ultimately the template used for the opening courses captures the searching of research to build out where the problem / opportunity might be and helps you think over the emerging themes.

Capella DBA • Business Problem and Emerging Topic Template

Learner name:	Specialization:	Faculty Evaluator:
1 - Scholarly Business References (3 to 5) (including a minimum of 3 Peer Reviewed journals)	2 - Business Problem or Opportunity (with APA citations linked to Scholarly Business References)	3 - Emerging Topic (the specific portion of the BP you will study)

To start “narrowing” your topic, you want to think through the following questions as you build out the “beginnings” of your problem statement:

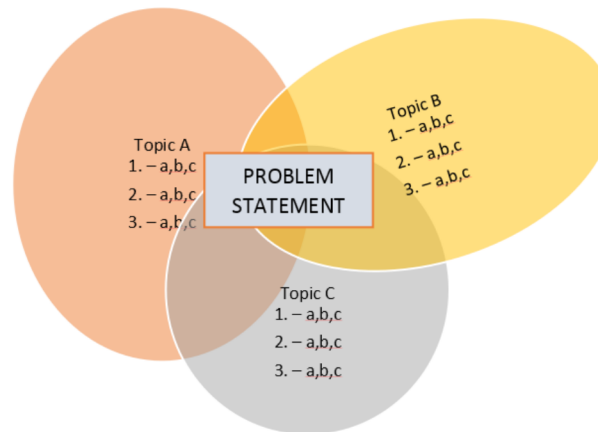
1. Who is your target stakeholder?
2. Why is the problem important?
3. What are the pros/cons of the access to data?
4. Will this topic be relevant in 3 years?
5. What specific area of technology are you focusing on to solve the business problem?
6. No kids, prisoners, cyber data that may lead to harm, or longitudinal studies
7. Do you have access to this type of sample set?

GROUNDING A TECHNICAL BUSINESS PROBLEM IN A FOUNDATION

The following Venn diagram is a thinking tool for you to formulate your narrowing of the deep topics by “narrowing” your topics focus.

Here are ways successful DIT learners might use the diagram below:

- 1 – Iteration of “deepening” your topic to a specific business sector, type of technology, technical business impact area, and/or key stakeholder for the information.
- 2 – Finding the gap of literature or trade journal publications you are solving
- 3 – Conversation guide to discuss with your MENTOR or COHORT members



DETERMINING IF YOUR RESEARCH IS QUALITATIVE / QUANTITATIVE?

As you develop the narrow focus of your dissertation problem statement, please use the table below as one tool to help determine if your research question will leverage a qualitative or quantitative approach.

Criteria	Qualitative Research	Quantitative Research
Purpose	To understand & interpret social interactions.	To test hypotheses, look at cause & effect, & make predictions.
Group Studied	Smaller & not randomly selected.	Larger & randomly selected.
Variables	Study of the whole, not variables.	Specific variables studied
Type of Data Collected	Words, images, or objects.	Numbers and statistics.
Form of Data Collected	Qualitative data such as open-ended responses, interviews, participant observations, field notes, & reflections.	Quantitative data based on precise measurements using structured & validated data-collection instruments.
Type of Data Analysis	Identify patterns, features, themes.	Identify statistical relationships.
Objectivity and Subjectivity	Subjectivity is expected.	Objectivity is critical.
Role of Researcher	Researcher & their biases may be known to participants in the study, & participant characteristics may be known to the researcher.	Researcher & their biases are not known to participants in the study, & participant characteristics are deliberately hidden from the researcher (double blind studies).
Results	Particular or specialized findings that is less generalizable.	Generalizable findings that can be applied to other populations.
Scientific Method	Exploratory or bottom-up: the researcher generates a new hypothesis and theory from the data collected.	Confirmatory or top-down: the researcher tests the hypothesis and theory with the data.
View of Human Behavior	Dynamic, situational, social, & personal.	Regular & predictable.
Most Common Research Objectives	Explore, discover, & construct.	Describe, explain, & predict.
Focus	Wide-angle lens; examines the breadth & depth of phenomena.	Narrow-angle lens; tests a specific hypotheses.
Nature of Observation	Study behavior in a natural environment.	Study behavior under controlled conditions; isolate causal effects.
Nature of Reality	Multiple realities; subjective.	Single reality; objective.
Final Report	Narrative report with contextual description & direct quotations from research participants.	Statistical report with correlations, comparisons of means, & statistical significance of findings.

Table content is taken from the following sources:

Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches* (p. 34). Thousand Oaks, CA: Sage Publications.

Lichtman, M. (2006). *Qualitative research in education: A user's guide* (pp. 7-8). Thousand Oaks, CA: Sage Publications.

WHAT ARE THE ELEMENTS OF A STRONG QUALITATIVE TECHNICAL BUSINESS PROBLEM?

A good qualitative purpose statement contains:

1. The central phenomenon
2. The participants
3. The research site
4. Include language drawn from qualitative inquiry

Be sure you cover the following in the qualitative problem statement:

- ✓ Use words such as purpose, intent, or objective
- ✓ Use action verbs such as describe, understand, develop, examine the meaning of, or discover
- ✓ Use neutral, non - directional language
- ✓ Indicate the strategy of inquiry
- ✓ Provide a tentative definition of the central phenomenon

PREPARATION READINGS

For this section on building your problem statement, please review page 129 -143 of Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage Publications.

STEPS TO WRITE YOUR TECHNICAL BUSINESS PROBLEM STATEMENT – QUALITATIVE

The problem statement can be thought of as the “need for study” or “creating rationale” for the study by identifying a particular “problem” or “issue.”

As you get started, read the information on the **research problem statement for review p. 130** Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage Publications.

What are the core components of the qualitative technical business problem?

- 1 – **Hook** – *cited attention grabber*
- 2 – **Anchor** – *cited value on why the topic is important*
- 3 – **Problem Statement** - *simply states to the reader what you plan on addressing*

Below you will learn tools to help you build your HOOK, ANCHOR, and PROBLEM STATEMENT:

WHAT IS A HOOK?

The HOOK provides a “current / relevant” data driven **ONE SENTENCE** that captures the reader’s interest. The HOOK that is supported by peer reviewed scholarship, government data, and/or strong trade journal information (less than 3 years old citation).

Helpful Hints: Hook

- ✓ For more information, review Creswell p.131
- ✓ Hook is the literature component that creates **WOW** or interest for the reader
- ✓ This sentence should be a headline for why the dissertation is interesting to read
- ✓ Think of this as your **headliner that grabs the attention** of the reader
- ✓ **No direct quotes for the hook**
- **Hook creates interest by stating timely topics, using data to specify how large this problem/issue**

Referencing a leading story that calls for further research in this topic area.

WHAT IS AN ANCHOR?

The ANCHOR provides a “current / less than 3 years old” data driven **ONE SENTENCE** supported by peer reviewed scholarship, government data, and/or strong trade journal information (less than 3 years old citation).

Helpful Hints: Anchor

- This citation “unites” or “secures” the reader by including any of the following:
 - Monetary value of the problem
 - Ratio to magnify the problem
 - Statistical data that is business focused
 - Frames how large the impact of this technical business problem is

PROBLEM STATEMENT SCRIPT / QUALITATIVE

The purpose of this _____ (narrative, phenomenological, grounded theory, ethnographic, case studies) study is to _____ (understand, describe, develop / generate, discover) the _____ (what is the focus phenomenon of the study) for _____ (who are the participants, who has the problem) at _____ (where are the participants located). At this stage in the research, the _____ (central phenomenon) will be generally defined as _____ (add in a general definition of the central concept).

- Use the table below to select words that align when describing the research approach, study is to verb, and participant group.

Narrative	Understand	One Individual
Case Studies	Describe	One Individual
Ethnographies	Describe	Group of Individuals / Site or Location
Phenomenologies	Describe	Group of Individuals
Grounded Theory	Develop	Group of Individuals
Useful in all approaches	Discover	

- As you determine the correct qualitative method think of these questions:
 - ✓ How can one best access the population?
 - ✓ How can one best obtain data saturation?
 - ✓ How can one control the scope of the study to get the study done without spending years collecting data?
- See Creswell p. 136 for suggestions on alignment of the general definition.
- Problem statement needs to be 150 – 200 words.

STEPS TO WRITE YOUR TECHNICAL BUSINESS PROBLEM STATEMENT – QUALITATIVE

A good quantitative purpose statement contains:

1. The variables (independent, dependent, and mediating, moderating or control)
2. The participants
3. The research site

Including the following:

- Use words such as purpose, intent, or objective
- Identify the theory, model, or conceptual framework
- Use words to connect the independent and dependent variables such as related to or comparison of
- Position the independent before the dependent variable; other variables may go between the two or after the dependent variable
- Mention the specific strategy of inquiry
- Provide general definitions of key variables

QUANTITATIVE: PROBLEM STATEMENT SCRIPT

The purpose of this (*experiment? survey?*) study is (*was? will be?*) to test the theory of (*theory name*) that (*compares? relates?*) the (*independent variable*) to (*dependent variable*), controlling for (*control variables*) for (*participants*) at (*the research site*). The independent variable(s) will be defined as (*provide a definition*). The dependent variable(s) will be defined as (*provide a definition*), and the control and intervening variable(s) will be defined as (*provide a definition*).

PROBLEM STATEMENT WEB RESOURCES

You may also find the following Capella websites beneficial:

- [Doctoral Research Guide](#). The Writing Center. Capella University
- [Capella University Writing Center](#)

You may also find supplemental information on the following outside resources:

- [How to Write a Research Question](#). The Writing Center. George Mason University; Invention:
- [Developing a Thesis Statement](#). The Reading/Writing Center. Hunter College
- [Problem Statements PowerPoint Presentation](#). The Writing Lab and The OWL. Purdue University
- [Using Thesis Statements](#). University College Writing Centre. University of Toronto
- [Problem Formulation](#). Research Methods Knowledge Base.2006
- [Thesis and Purpose Statements](#). The Writer's Handbook. Writing Center. University of Wisconsin, Madison
- [Thesis Statements](#). The Writing Center. University of North Carolina
- [Tips and Examples for Writing Thesis Statements](#). The Writing Lab and The OWL. Purdue University.

MENTOR PROBLEM STATEMENT CHECKLIST:

Checkpoint Edit:	Yes/No?	Comments:
Is the Problem a significant technical business problem?		
Is the Problem feasible?		
Does the Design align to the Problem?		
Suggestions for Change in Design		
Is the sample statistically significant if a quantitative design or if a qualitative design, clearly explained why chosen?		
Is the sample a protected class for the IRB?		
Are the hook and anchor leading into the problem appropriate?		
Is the specific problem cited?		
Are sources at least 3 years from the date (unless a historical design) in the problem?		