**Scientific and Research Work Methodology:**

**How to Write a Good Research Proposal**

**and Dissertation**

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Introduction

This text is devoted to PhD students and guide them with practical recommendations how to prepare their research proposal and how to write dissertation.

The study material is organized in two main chapters.

Chapter 1 contains ideas how to write a good research proposal for explanation what is the proposed research about, what will be investigated or achieved, how is possible to reach the goal and why research topic is important. This chapter practically shows how to define the research area and the research topic, what are attributes of selecting a good research topic and how to search for it. There are good advices for key parts of research - how to define research problem, research questions and objectives. Students can find recommendations how to approach to the literature review, how to carry out the critical literature review and evaluate the content of critical literature review.

Very important part of this chapter is devoted to the research design – how to choose qualitative, quantitative or mixed research approaches, suitable research methods and data collection techniques.

The first part of the Chapter 2 is devoted to writing dissertation. The structure of dissertation is introduced, and each part of dissertation thesis is described. The second part of this chapter contains practical recommendations how to presenta the research results.

I hope that this study text could help students to write systematic and useful research proposal, to design their research and to write their dissertation thesis in such manner that will lead them to successfully defended their dissertation.

*Drahomíra Pavelková, author*

# 1 How to prepare a good research proposal

## 1.1 What a research proposal contains

Developing a research proposal offers an opportunity to think about your research project for conducting and concluding your doctoral dissertation.

The research proposal is a structured plan for your research describing:

* ***What*** *is the proposed research* ***about***
* ***What*** *will you attempt to investigate or what you will* ***achieve***
* ***How*** *to reach the* ***goal***
* ***Why*** *your research is* ***important***

Each research project must be able to answer these fundamental questions:

**WHAT?** – what you will examine – research problem, research objectives, main tasks leading to reaching the objectives, formulation of hypotheses.

**WHY?** – why is topic of your research important.

**WHERE?** – where will you conduct your research, how will be made generalisation of results.

**HOW?** – how you will conduct the research, what methods and techniques of data collection you will use.

**WHO?** – who will participate in the research.

**WHEN?** – when will the research be conducted, on what time-span.

**FOR HOW MUCH?** – what material and financial resources are needed for research, financial budget, how to get resources.

The research project consists:

* Title
* Area of interest
* Literature review
* Research problem and main objective of research
* Research questions, partial research objectives, hypotheses
* Research design – methods, sampling, data collection techniques, data analysis
* Timescale
* Material and financial resources needed
* Expected research results
* Expected risks and limitations of research
* Ethical issues associated with the research and how they will be addressed
* References

You can evaluate quality of your research proposal answering following questions (Saunders et al, 2016, p.54-55):

*✔ “Have I explained what I am going to do?*

*✔ Have I explained why I am doing this?*

*✔ Have I said why it is worth doing?*

*✔ Have I explained how it relates to what has been done before in my subject area?*

*✔ Have I stated which theory or theories will inform what I am doing and how I will use it or them?*

*✔ Have I stated my research questions and research objectives?*

*✔ Have I outline how I will conduct my research?*

*✔ Have I outlined my research design?*

*✔ Have I outlined what data I need?*

*✔ Have I stated who and where my intended participants are?*

*✔ Have I explained how I will select my participants?*

*✔ Have I explained how I will gain access?*

*✔ Have I outline how I will collect my data?*

*✔ Have I outline how I will analyse my data and use this to develop theoretical explanations?*

*✔ Have I outline what data quality issues I might encounter?*

*✔ Have I outline how I will seek to overcome these data quality issues?*

*✔ Have I considered the ethical issues I might encounter at each stage of my research?*

*✔ Have I outline how I will address these?”*

The following subchapters give you advice how to deal with individual parts of research project and design.

## 1.2. How to define the research area and the research topic

**Area of interest**

If it is not clear what the research is about to do, it is hard to plan how research will be done. Explaining the topic/focus of the research will allow you to choose the right research strategy, data collection techniques and data processing methods.

Try to identify topic to study - central idea to learn about or to explore and try to put down working title: my study is about…, or brief question.

This process is time-consuming, but it is really the prerequisite for successful research. You will recognize that the formulated research area, following by formulation of research problem will subsequently need to be developed into research questions and research objectives.

According Sekaran & Bougie (2016), there are three important first steps in the research process:

Definition of the

research problem

Preliminary research

Identification of the broad management problem

**Figure 1: Three important first steps in the research process**. Source: Sekaran & Bougie (2016)

**Attributes of selecting a good research topic**

Saunders *et al* (2016) emphasize several attributes of a good business and management research topic:

* *The ability to carry out the research (its feasibility)*

To select a good research topic means that you are fascinated by this topic and you are able to undertake the research with the level of your personal knowledge, experience and skills (or with the possibility of their development during the course of study). You can do it in given time, with available resource and with available data or the ability to get them.

* *Issues within the research are capable of being linked to academic theory.*
* *The possibility to clearly formulate research questions and research objectives - conditioned by good literature research.*
* *The possibility to bring new knowledge and its application and to become an expert in the field.*

The authors recommend you answering following questions to be sure of good and suitable research topic (p.30-31):

“Capability: is it feasible?

*✔  Is the topic something with which you are really fascinated?*

*✔  Do you have, or can you develop within the project time frame, the necessary research skills to undertake the topic?*

*✔  Is the research topic achievable within the available time?*

* *✔  Will the project still be current when you finish your project?*
* *✔  Is the research topic achievable within the financial resources that are likely to be available?*

*✔ Are you reasonably certain of being able to gain access to data you are likely to require for this topic?*

Appropriateness: is it worthwhile?

* *✔  Does the topic fit the specifications and meet the standards set by the examining institution?*
* *✔  Does your research topic contain issues that have a clear link to theory?*
* *✔  Are you able to state your research question(s) and objectives clearly?*
* *✔  Will your proposed research be able to provide fresh insights into this topic?*
* *✔  Does your research topic relate clearly to the idea you have been given (perhaps by an organisation)?*
* *✔  Does the research topic match your career goals?”*

**How to search for a research topic**

When searching for your research topic try to consider these advices:

* build on your strengths and interests,
* look at past or ongoing research projects,
* discuss with your supervisor, other researchers, practitioners, ...,
* study literature (news, books, papers in scientific and professional journals), watch the media,
* write your ideas,
* use "relevance tree”,
* use brainstorming (with a group of people). Saunders et al. (2009).

Thenprepare an "introductory study" based on literary research, discussions with the supervisor and other experts (you can also use the Delphi method) and verify if the subject has the required attributes of a good research topic.

## 1.3 How to define research problem, research questions and objectives

### 1.3.1 Defining the research problem and the aim of research

The research problem is based on the so-called "research gap":

* in existing literature, solutions and research results cannot be found, the problem has not been addressed, or
* the problem has been solved, but the results are different, conflicts can be found in theoretical approaches, empirical methods, etc.

According Sekaran & Bougie (2016), the problem statement must be unambiguous, specific, and focused and no amount of good research can find solution to the situation if the problem to be studied is not clearly pinpointed.

The identified research problem results in a formulation of the **aim of the doctoral thesis.**

**Example 1.3.1**

Research problem:

*Frequent and long delays may translate into much frustration among airline passengers, to switching behaviour, and to negative word-of-mouth communication. These feelings and behaviours eventually have negative effects on the performance of the firm.*

Research aim:

*To investigate the possible impact of waiting on customer satisfaction and service evaluation.*

More examples of the research aims:

*To find out what motivates consumers to buy a product online.*

*To study the effect of leadership style on employees’ job satisfaction.*

*To investigate the relationship between capital structure and profitability of the firm.*

*To establish success factors regarding the adoption and use of information systems.*

*To investigate the influence of the in-store shopping environment to impulse buying.*

Sekaran & Bougie (2016)

### 1.3.2 The research questions

According Bryman (2015) research question is a question that provides an explicit statement of what it is the researcher wants to find out about.

Research questions:

* enable to capture research problem and to provide framework for description of findings
* indicate what data will be needed for research
* influence data collection and analysis

Sekaran & Bougie (2016) define three basic types of questions:

* *exploratory research questions*

- developed when:

* + - not much is known about a particular phenomenon
    - existing research results are unclear or suffer from serious limitations
    - the topic is highly complex
    - there is not enough theory available to guide the development of theoretical framework

- research often relies on qualitative research

Phillips & Pugh (2005) add example of such kind of questions: Why...? How...? When...? These questions require analysis, explanation, comparison, prediction, release relationship and lead to theory creation.

* *descriptive research questions*
  + developed when the objective of the research study is to obtain data that describes the topic of interest
  + descriptive research could be quantitative or qualitative

Examples of questions: What is share… How many...?

* *causal research questions*
* developed when it is necessary to test whether or not one variable causes another variable to change
* example: “What is the effect of a reward system on productivity?”

### 1.3.3 The research objectives

The research objectives more specify research focus. When you are formulating research objectives, respect research questions.

**You could find useful notes dealing with relationship of aim and objectives and their characteristics as follow (retrieved from** <http://www.erm.ecs.soton.ac.uk/theme4/aims_and_objectives.html>):

***“Objectives****are subsidiary to aim and:*

* *are the steps you are going to take to answer your research questions or a specific list of tasks needed to accomplish the goals of the project*
* *emphasize how aims are to be accomplished*
* *must be highly focused and feasible*
* *address the more immediate project outcomes*
* *make accurate use of concepts*
* *must be sensible and precisely described*
* *should read as an 'individual' statement to convey your intentions*

*The aims and objectives should:*

* *be concise and brief,*
* *be interrelated; the aim is what you want to achieve, and the objective describes how you are going to achieve that aim,*
* *be realistic about what you can accomplish in the duration of the project and the other commitments you have,*
* *provide you with indicators of how you intend to:*
  + *approach the literature and theoretical issues related to your project.*
  + *access your chosen subjects, respondents, units, goods or services.*
  + *develop a sampling frame and strategy or a rationale for their selection.*
  + *develop a strategy and design for data collection and analysis.*
  + *deal with ethical and practical problems in your research.*

*Aims and objectives should not:*

* *be too vague, too ambitious or too broad in scope.*
* *just repeat each other in different terms.*
* *just be a list of things related to your research topic.”*

**Example 1.3.2**

**Research problem:** *Using social media in advertising to increase its effectivity*

**Research aim:** To identify possibilities how to increase effectiveness of advertising by using social media.

**Research questions** (RQ) and **research objectives** (RO):

RQ1: Why do companies use social media in advertising?

*RO1: To identify goals of social media using in advertisement.*

RQ2: How do companies use social media in advertising?

*RO2: To describe ways of social media using in advertisement.*

RQ3: How is it possible to measure influence of social media using on effectiveness of advertising?

*RO3: To propose suitable indicators to measure influence of social media using on effectiveness of advertising.*

RQ4: How is it possible to increase effectiveness of advertising by using social media?

*RO4a: To identify factors influencing effectiveness of advertising by using social media.*

*RO4b: To judge if some of factors have higher influence than others.*

**Example 1.3.3**

**Research problem:**

*Why employees in family businesses do not engage in knowledge sharing with fellow members?*

**Research aim:**

*The main aim of research is to develop a comprehensive model in human capital reviewing employee’s tacit and explicit knowledge sharing intentions in event of sustaining businesses owned by families in the long run.*

**Research questions** and **objectives:**

RQ1: What internal business environment factors do drive intentions of employees’ tacit and explicit knowledge sharing in family businesses?

*RO1: To identify internal business environment factors which drive intentions of employees’ tacit and explicit knowledge sharing with fellow employees in family businesses.*

RQ2: Is there a relationship between employees’ tacit and explicit knowledge sharing intentions in family businesses?

*RO2: To analyse the relationship between employees’ tacit and explicit knowledge sharing intentions in family businesses.*

RQ3: In what ways do internal business environment factors influence employees’ tacit knowledge sharing intentions in family businesses?

*RO3: To examine the direct impact of each individual factors of internal business environment to employees’ tacit knowledge sharing intentions in family businesses.*

RQ4: In what ways do internal business environment factors influence employees’ explicit knowledge sharing intentions in family businesses?

*RO4: To examine the direct impact of each individual factors of internal business environment to employees’ explicit knowledge sharing intentions in family businesses.*

RQ5: How do employees’ tacit and explicit knowledge intentions promote business continuation in family businesses?

*RO5: To understand employees’ tacit and explicit knowledge sharing contribution in the event of surviving family businesses in the long run.*

Kuruppuge (2016), adapted

## 1.4 How to approach the literature review

The deep literature review is very important for conducting your research with expected results. However, you can feel that you already have a reasonable knowledge of your research area, reviewing the literature critically is essential.

Your literature review has to demonstrate level of knowledge in selected topic, to show trends and reveal research gaps.

The literature review should be a critical discussion of all significant, publicly available literature that contributes to the understanding of a subject.

You have to realize what Rudestam and Newton (2002, s.59) state: *„Create argumentation, no library.“*

The critical literature review:

* helps you to specify the general focus of research, also recommendations other authors for further research can be helpful,
* helps to specify research objectives,
* provides the necessary knowledge,
* could help to avoid exploring what has already been explored.
* helps to prepare research design (approaches, strategies, methods, techniques for data collection).

For conducting literature searching it is necessary to establish parameters for this search to avoid wasting time. It should be critical analysis, reading with a purpose.

The literature review helps you to develop a theoretical framework for your investigation.

According to Tranfield et al. (2003) and Denyer and Neely (2004), systematic review includes:

* the development of clear and precise aims and objectives for the literature review;
* pre-planned search methods;
* a comprehensive search of all potentially relevant articles;
* the use of clear assessment criteria in the selection of articles for review;
* assessment of the quality of the research in each article and of the strength of the findings;
* synthesising the individual studies using a clear framework;
* presenting the results in a balanced, impartial and comprehensive manner.

### 1.4.1 How to carry out the critical literature review

When you carry out the literature review, start with study of publications of the most cited authors and review articles. When reading papers in scientific journals, books, studies, conference papers, theses, note down any interesting research ideas. When you are reading each item, you have to ask yourself how it contributes to your research topic. Do not forgot to record bibliographic details, brief summary of content and supplementary information, if necessary.

Wallace and Wray (2016) advocate the use of five critical questions to employ in reading:

1. *Why am I reading this?*
2. *What is the author trying to do in writing this?*
3. *What is the writer saying that is relevant to what I want to find out?*
4. *How convincing is what the author is saying? (In particular, is the argument based on a conclusion which is justified by the evidence?)*
5. *What use can I make of the reading?*

The critical literature review is not just a series of book and journal article reviews describing and summarizing what each is about. You have to justify why some concepts, theories, arguments or empirical research findings published in literature are inconsistent, bias or unclear to prove that more research is needed.

There is no prescribed structure of literature review, but Saunders et al (2016, p. 80) suggest following way:

1. *„Start at a more general level before narrowing down to your specific research question(s) and objectives;*
2. *provide a brief overview of key ideas and themes;*
3. *summarise, compare and contrast the research of the key writers;*
4. *narrow down to highlight previous research work most relevant to your own research;*
5. *provide a detailed account of the findings of this research and show how they are related;*
6. *highlight those aspects where your own research will provide fresh insights;*
7. *lead the reader into subsequent sections of your project report, which explore these issues.“*

**Example 1.4.1**

*„…The capital asset pricing model (CAPM) – a single factor model – was developed in 1964 by Sharpe, following the portfolio theory developed by Markowitz. It is a model which estimates the return of an asset by a single factor, the market portfolio. However, several studies found that a multifactor model tends to outperform a single-index model in both domestic and international forms. Therefore, Ross (1976) extended the CAPM into the arbitrage pricing theory (APT). APT is a multi-factor model which introduces several factors that might influence stock return. However, its main limitations are that factors and their numbers are not known in advance, but must be determined by statistical or economic analysis. For example, while Chen et al. (1986) mention only five factors, Robin and Shukla (1991) and Beenstock and Chan (1988) have identified 10 and 20 factors, respectively.“* (El Khoury, 2015, p.71)

### 1.4.2 How to evaluate the content of critical literature review

For evaluation the content of Saunders et al (2016, p.77) recommend answering following questions:

*✔* “*Have you ensured that the literature covered relates clearly to your research question and objectives?*

*✔ Have you covered the most relevant and significant theories of recognised experts in the area?*

*✔ Have you covered the most relevant and significant literature or at least a representative sample?*

*✔ Have you included up-to-date literature?*

*✔ Have you referenced all the literature used in the format prescribed in the assessment criteria?”*

### 1.4.3 How to evaluate whether the literature review is critical

For evaluation whether the literature review is critical, Saunders et al. (2016, p.79) recommend answering following questions:

*✔ “Have you shown how your research question relates to previous research reviewed?*

*✔ Have you assessed the strengths and weaknesses of the previous research reviewed?*

*✔ Have you been objective in your discussion and assessment of other people’s research?*

*✔ Have you included references to research that is counter to your own opinion?*

*✔ Have you distinguished clearly between facts and opinions?*

*✔ Have you made reasoned judgements about the value and relevance of others’ research to your own?*

*✔ Have you justified clearly your own ideas?”*

*✔ Have you highlighted those areas where new research (yours!) is needed to provide fresh insights and taken these into account in your arguments? In particular:*

* + *where there are inconsistencies in current knowledge and understanding?*
  + *where there are omissions or bias in published research?*
  + *where research findings need to be tested further?*
  + *where evidence is lacking, inconclusive, contradictory or limited?*

*✔ Have you justified your arguments by referencing correctly published research?”*

### 1.4.4 Recommendations for structure of the literature review

Your literature review should consist of following parts:

* clear statement of purpose and description of coverage of review,
* review with discussion the collection of items reviewed,
* literature review should end with a statement of the research problem or questions that still remains not answered.

## 1.5 Theoretical framework and hypotheses development

*“The hypothesis is in sense a research question, but it is not stated as a question and provides an anticipation of what will be find out”* (Bryman, 2015, p. 7).

After a critical literature review a theoretical framework in case of deductive research you are prepared to develop. The development of the theoretical framework is crucial in deductive, theory-testing, causal research (but not in exploratory or descriptive research where one does not develop a theoretical framework to develop and test hypotheses).

A theoretical framework represents your belief on how certain phenomena (or variables or concepts) are related to each other (a model) and an explanation of why you believe that these variables are associated with each other (theory). From the theoretical framework, testable hypotheses ca be developed to examine whether your theory is valid or not.

The process of building of the theoretical framework includes:

* introducing definitions of the concepts or variables in your model,
* developing a conceptual model that provides a descriptive representation of your theory,
* coming up with a theory that provides an explanation for relationships between the variables in your model. Sekaran & Bougie (2016)

Define hypotheses in the case that:

* for specific research question you can predict in advance what you expect (before you get and analyse data),
* the prediction is based on the theory from which one can derive hypotheses.

**Example 1.5.1**

**Research problem:** The establishment of the research problem is based on the literature review on the relationship between concentration ownership and accounting conservatism adoption and the practical events regarding the reforms of the economy and accounting system in Vietnam in the context of the international economic integration.

**Research aim:** To investigate the relationship between ownership structure and financial reporting quality under concentration ownership setting in Vietnam.

**Research question (RQ), research objectives (RO) and hypotheses (H):**

**RQ1: What are the benefits of accounting conservatism to financial statements users?**

**RQ1a:** *What are the benefits of accounting conservatism to equity market users?*

**RQ1b:** *What are the benefits of accounting conservatism to debt market users?*

**RQ1c:** *What are the benefits of accounting conservatism to corporate governance users?*

**RO:** Determining the benefits of accounting conservatism to financial statement users.

**RQ2: Do Vietnamese firms adopt accounting conservatism in financial reporting?**

**RO2:**Testing financial information quality of Vietnamese financial statements.

**H1:** *The timeliness of earnings is asymmetrically greater for “bad news” than for “good news”.*

**H2:** *Earnings changes would be less persistent for “bad news” than “good news”.*

**RQ3: Does financial statement disclosure impact on the adoption of accounting conservatism in Vietnamese financial statements?**

**RO3:**To understand the role of financial information disclosure in improving the quality of financial information.

**H3:** *There is a difference in the level of accounting conservatism between the intra-audited financial statement disclosure period and the prior-audited financial statement disclosure period in Vietnam.*

**RQ4: How does state and foreign ownership impact accounting conservatism adoption in Vietnam?**

**RQ4a:** *How does state ownership impact on accounting conservatism adoption in Vietnam?*

**RO4a:**Supplementing additional empirical evidence on the relationship between state ownership and financial information quality.

**RQ4: How does state and foreign ownership impact accounting conservatism adoption in Vietnam?**

**RQ4a:** *How does state ownership impact on accounting conservatism adoption in Vietnam?*

**RO4a:**Supplementing additional empirical evidence on the relationship between state ownership and financial information quality.

**H4:** *Accounting conservatism is negatively associated with the share of state ownership in Vietnam.*

**H5**: *State-controlled enterprises have lower levels of accounting conservatism adoption than non-state-controlled enterprises.*

**RQ4b:** *How does foreign ownership impact on accounting conservatism adoption in Vietnam?*

**RO4b:**Providing new empirical evidence on the relationship between foreign ownership and financial information quality.

**H6:** *Accounting conservatism is positively associated with the share of foreign ownership in Vietnam.*

**RQ4c**: *How does the interaction between state ownership and foreign ownership impact on accounting conservatism adoption in Vietnam?*

**RO4c:**Providing new empirical evidence on the association between the mixed ownership structure and financial information quality.

**H7**: *The presence of foreign ownership reduces the influence of state ownership on accounting conservatism.*

(Le, 2018, adapted)

## 1.6 The research design

### 1.6.1 How to prepare the research design

Your research design is the general plan of how you will go about answering your research questions.

It contains:

* clear objectives, derived from your research questions,
* the sources from which you intend to collect data,
* the constraints that you will inevitably have (e.g. access to data, time, location and money)
* discussion of ethical issues.

It should reflect the fact that you have thought carefully about why you are employing your particular research design - you must have valid reasons for all your research design decisions as for example, why you chose to conduct your research in a particular company, sector, country, why you chose to talk to one group of staff rather than another, etc. Saunders *et al.* (2016)

### 1.6.2 Quantitative or qualitative research?

The research is captured by the research questions, they lead to what data are needed to answer them and how to collect and analyse data. The results of analysed data serve to answer the research questions.

How to choose a suitable research approach and methods? Punch (2008) suggests answering these questions:

* Do you intend to make a standardized comparison, quantify the relationships between the variables and describe the variability?
* Or, do you want to seek a more detailed study of a phenomenon or situation, holistically and in a context, with a focus on interpretations or processes?
* What suggestions can be found in the literature on the topic within this methodological issue?
* What are the practical implications of each alternative (including access to data and sources needs)?
* Which way leads to deeper knowledge?
* What type of research is closer to your mind?

You have to decide if your research is about testing theory or creating new theory:

* **Theory Verification** – testing hypotheses defined on the base of literature review - **quantitative research**
* **Theory Creation** – suggestion or development of a theory that would explain phenomena or results - **qualitative research**

**Example 1.6.1**: Isabelle’s research dilemma

According Saunders *et al* (2009), shortened

Isabelle has a dilemma: her research was concerned with managers and how they coped with pressure in the workplace. She particularly wanted to find out the coping strategies they used. This required consideration of theory and method and whether the research would have practical relevance. After her preliminary reading around the topic she decided that it was necessary to engage in both the world of theory and the world of practice and that the problems addressed would develop out of the interaction between these two worlds. In doing this she would be considering theoretical ideas and attempting to perceive them in a pragmatic way. Isabelle found that more traditional research on managing pressure focused on positivistic approaches with an emphasis on being scientific and rigorous. This approach often uses quantitative methods with an emphasis on measuring and the use of factor analysis. Researchers hope this allows them to find statistical correlations between two variables and demonstrate some relationship between sources of pressure and possible physical, psychological or even physiological outcomes, if coping strategies were not successful. Isabelle decided she would not use this approach. She felt that a number of students’ dissertations had already used this approach and she wanted to get away from statistical analysis and examining pressure on managers using a positivistic approach. She also thought that this traditional research ignored the managers’ biography which could prove to be important in understanding how the manager coped with pressure. The more traditional approach seems to perceive the individual as passive and playing little part in making and constructing his/her reality. It was as if the researcher with questions asked in the questionnaire had already structured the reality. However, people working in organisations do have histories, futures and expectations and pursue their individual goals. For example, long-term sources of a person’s distress may be traced back to experiences at work many years before. To study this would require Isabelle to use a different method. She decided to adopt in-depth interviews as primary sources so that she could study the turning-points in the lives of her participants over a period of time. This may indicate why they took particular decisions and the consequences of making those decisions. In terms of method Isabelle decided that the approach she would adopt would be qualitative rather than quantitative. In conducting such research Isabelle knew she had to deal with complex issues with the subject-matter and the method she wanted to adopt. The relationship between the interviewee and interviewer is central to this type of research. She felt she had the emotional maturity to manage the process. Most importantly she felt that the research was rigorous, systematic and relevant to managers in the workplace.

The risk of quantification is the poor interpretation of the data obtained and the detachment of results from reality, while qualitative research usually does not allow generalization as quantitative research.

**Triangulation** refers to the use of different data collection techniques within one study in order to ensure that the data are telling you what you think they are telling you.

**Example 1.6.2**

*„This study is post positivistic research believing objective realities in the world. Mainly, quantitative research methodology and deductive research approach will be used for this study. The researcher choice of the study will be mixed methods given more emphasize to survey. Adapting to mixed methods, the first objective of this study (to identify internal business environment factors which drive intention of employees’ tacit and explicit knowledge sharing with fellow employees in family businesses) will be achieved through the literature review. At the same time, the last objective of this research (to explore employees’ tacit and explicit knowledge sharing contribution in the event of surviving family businesses in the long run) will be completed by applying qualitative methods. In order to reach to a conclusion, all other objectives will be accomplished using quantitative methods by testing hypotheses.“*

Kuruppuge (2016, p.22-23)

### 1.6.3 How to collect and analyse data

Data collection techniques identify what data (primary / secondary) you need to answer research questions - choose the techniques to collect them:

* + questionnaires,
  + interviews,
  + observations, ...

We can distinguish data collection tools and procedures for individual techniques, e.g. for questionnaires - what kind of questions, posting by mail, electronically, for interviews - where, when, how to record, ...

Methods of data analyses identify how data will be analysed to get answers to research questions and to solve a research problem.

**Example 1.6.3**

*“Both primary and secondary data will require for this study. The primary data collection will be carried out through a survey of employees working in enterprising family business in Sri Lanka. A questionnaire representing the measurements of all variable reflected in the conceptualization will serve as a tool to collect primary data. At the same time, the researcher will conduct in-depth interviews based on an interview guide with ten business owners of the same sample selected for the survey. This qualitative data will require analysing the last research question and achieving the last research objective. The interview guide mainly consists with open ended questions referring to history and development of the business, successes and failures occurred due to family involvement, knowledge sharing among family members in the business and current business challenges. Secondary data for both qualitative and quantitative analysis will be collected from secondary sources such as annual reports of businesses, minutes of meeting of firms and other document available at each firm.”*

Kuruppuge (2016, p.22-23), shortened

### 1.6.4 Quality of research design - the credibility of research findings

To reduce the possibility of getting the answer wrong attention has to be paid to two particular emphases on research design: *reliability* and *validity.*

**Reliability**

Reliability of research refers to the extent to which data collection techniques or analysis procedures will yield replicable and consistent findings.

Easterby-Smith *et al*. (2008, p. 109) suggest answering following questions:

*“Will the measures yield the same results on other occasions?*

*Will similar observations be reached by other observers?*

*Is there transparency in how sense was made from the raw data?”*

Saunders et al. (2016) point out threats to reliability:

* *participant error*
* *participant bias*
* *researcher error*
* *researcher bias*

**Validity**

Validity of research is concerned with whether the findings are really about what they appear to be about.

We can distinguish internal validity and external validity.

**Internal validity is about** appropriateness of the measure used, and accuracy of analysis of the results.

**External validity** is about generalisability of the findings. It means the extent to which research results are generalisable: that is, whether research findings may be equally applicable to other research settings, such as e.g. other organisations. This may be a particular worry if case study research in one organisation is used, or a small number of organisations, or there are big differences between organisations. **But** in such cases the purpose of research is not to produce a theory that is generalisable to all populations! Saunders et al. (2016)

Internal validity is more important than external validity because without internal validity, generalizations are meaningless. As internal validity increase, external validity tends to decrease.

Internal validity is enhanced by (Rovai *et al,* 2014):

* + *random assignment of participants to groups*
  + *minimazing the effects of random error*
  + *controlling extraneous variable*s

Saunders et al. (2016) draws attention to threats to validity:

* *Past or recent events (history)*
* *Testing* (influence of testing on participants views or actions)
* *Instrumentation* (change in research instrument)
* *Mortality* (participants withdrawing from studies)
* *Maturation* (something affects attitudes or behaviour)
* *Ambiguity about causal direction* (lack of clarity about cause and effect)

Rovai *et al* (2014) point out that if threats are not reduced/eliminated, they need to be listed as study limitations.

### 1.6.5 Timetable and resources needed for carrying out research

Preparing a research timetable will help you verify the feasibility of research over a given time period. It may be useful to use the Gantt chart for division of research into phases (steps), when each phase has a time period to complete.



**Figure 2: Example of Gantt diagram.** Source: https://www.teamgantt.com/free-gantt-chart-excel-template

To carry out your research successfully, material and financial resources need to be assessed – material resources as availability of databases, software, … and availability of financial sources or how to obtain sources for research.

# 2. How to write your DISSERTATION AND Present your results

## 2.1 How to write the dissertation

The dissertation is a document that presents the author's research and findings. A doctoral dissertation is the result of extensive research. It presents an original contribution to knowledge in logically constructed, coherent work.

The dissertation may be:

* + 1. a monograph
    2. an article-based dissertation (articles published in refereed journals

It may incorporate results from submitted, accepted, or published author’s journal articles.

### 2.1.1 Structure of the dissertation

***Title, author, degree programme, supervisor, consultant (if any), date of delivery, institution***

***Key words***

* several the most important words that are used to index and catalogue purposes; 5-7 keywords

***Acknowledgement***

***Abstract*** (English and Czech)

* an abstract is a self-contained, short, and powerful statement that describes your scholarly work.
* the abstract will be the most widely read and published part of your dissertation, the potential reader will first look at when deciding whether to spend more time on reading the entire dissertation.
* abstract should gradually (1) give information about research problem, aim/s and scope of the research, (2) states the methods of investigation, (3) summarize the main results and (4) formulate the general conclusions.
* should not contain tables, graphs, complex equations, or illustrations, not use unfamiliar abbreviations and references to tables, graphs and literature.
* except for the initial reference, abstract is usually written in the past tense.

***Content***

***List of Figures***

***List of Tables***

***List of Abbreviations and Acronyms***

***Introduction***

The introduction should contain: why this research is important, what are the specific manifestations of the problem at hand in a particular organizations, country, region, system, etc., what are the aim and the objectives of the work, what and how they are examined, processed, designed, applied and main results with the emphasize of their importance.

The introduction could be structured in the following way:

* research background
* research problem
* research aim and objectives
* research scope
* research methodology
* research contribution
* outline of the thesis

***Literature review*** (current state of subject area)

* builds the concept of research,
* shows the knowledge of the topic,
* identifies the gap in the topic researched.

***Research model***

This part is devoted to development of conceptual framework and hypotheses (in case of deductive research).

***Research methodology***

Research methodology should contain philosophical underpinnings of the study, research approaches, explanation of design methods that are used in research, stating why and how they are used, sampling and data collection techniques.

Saunders et al. (2016, p. 639) recommend points to include in your method chapter:

*“Setting:*

✔  What was the research setting?

✔  Why did you choose that particular setting?

✔  When was the research carried out?

*Sample selection and research informants/participants/respondents:*

✔ How were those who took part selected and why?

✔ How many took part and why?

✔ What were their characteristics and how do they relate to the research questions?  
✔ What were their characteristics of those who refused to take part?

*Data collection materials and practice:*

✔ Which existing questions/scales/interview or observation schedules/questionnaires were used and why?

✔  How were purpose-made instruments developed and why?

✔  How were these used to collect data: (1) what instructions were given to those from whom data were collected, (2) how many questionnaires were delivered or interviews/observation conducted and why, (3) how long did each questionnaires/interviews/observation take to complete?

*Data analysis procedures:*

✔  How were the resulting data analysed?

✔Have you ensured that procedures (including statistical techniques) were applied correctly and, where appropriate, assumptions satisfied?

*Reliability and validity:*

✔  Have you explained how you sought to ensure internal reliability and provided an adequate account of your method to facilitate external reliability?

✔ Have you assessed the validity of the measures you used in the research?

✔ Have you assessed the internal validity of your results?

✔ Have you assessed the external validity/generalisability of your findings?

✔ Have you recognised the limitations of your research?

*Ethical concerns:*

✔Which ethical issues were raised by the study, and how were these addressed?”

***Results and discussion***

This part contains the answers of the research questions. There is the description of the model and experimental work, progress and results of the investigation, including the processing of these results, event. graphical presentation. This part also presents the evaluation of what the results mean (data are converted to knowledge) following by a discussion and confrontation lessons learned with the theory.

***Limitation of research***

The limitations of the research are those characteristics of design or methodology that impacted or influenced the interpretation of the findings from your research. They are the constraints on generalizability, applications to practice, and/or utility of findings that are the result of the ways in which you initially chose to design the study or the method used to establish internal and external validity or the result of unanticipated challenges that emerged during the study. (Price & Murnan).

***Contribution to theory and practice***

Describe benefits and possibilities to use the results. To contribute to development of theory means to develop new “knowledge”. To contribute to practice means to identify practical usefulness or your results or implementation of knowledge to the business practice.

***Conclusion***

It summarizes the conclusions of the scientific investigation, the solutions to the problems stated in the beginning, suggestions for future research, and practical implications of the findings. This chapter should be relatively short and preferably written in a way that it can stand alone. Avoid copy-pasting sentences from the Abstract and the Introduction.

Saunders et al. (2016, p.642) recommend to answer these questions when preparing your conclusion:

✔ *“Did the research project meet your research objectives?*

*✔ Did the research project answer your research questions?*

*✔ What are the main findings of the research?*

*✔ Are there any recommendations for future action based on the conclusions you have drawn?*

*✔ Do you have any overall conclusions on the research process itself? ✔ Where should further research be focused?* *(Typically this will consider two points: firstly, new areas of investigation implied by developments in your project, and secondly parts of your work which were not completed due to time constraints and/or problems encountered.)“*

***References (bibliography)***

This part contains references to other writers’ publications that were cited in text of dissertation.

***Appendix***

Appendices should be kept to the minimum (if material in an appendix is crucial to readers’ understanding, then it should be included in main text). Appendices should include a blank copy of questionnaire, interview or observation schedule.

***List of author‘s publications***

***Author‘s professional curriculum vitae***

## How to present your results

Your research results usually should be orally presented in time constrained conditions (20-30 minutes). It means that such oral presentation calls for considerable planning. The challenge is to present clearly important aspects of your research and research results and to hold the interest of audience, while providing information. You can use different stimuli as graphs, charts, tables, images, photos, etc. to keep audience’ interest. The content of presentation, timing and the style of delivery is very important for successful defence of your research results.

Your presentation should contain the problem investigated, research design, the results found, the conclusion drawn, and the recommendations made. Sekaran & Bougie (2016) explain, that details of sample, data collection methods, details of data analysis can be mentioned in passing to be picked up at the question-and-answer session by interested members of board.

The speaker should establish eye contact with the audience, speak understandably and be sensitive to the nonverbal reactions of the audience. Factors as dress, mannerism, gestures, voice modulation can take added importance in oral presentations.

The thesis reviewers’ comments and question-and-answer session are following the presentation. Questions should be responded to with care. Sekaran & Bougie (2016) emphasise that concentrated research on the research topic over a considerable period of time indisputably makes the presenter more knowledgeable about this research topic than anyone else in the audience and it is not difficult to handle the questions with confidence and poise. It is important not to be defensive if somebody identify some fault with any aspect of the research. It is very helpful if presenter is open to suggestions and idea coming from audience. If a question or suggestion from a member of audience happens to be flawed, authors recommend responding in a non-judgemental fashion.

Summary

Formulating and clarifying research topic is a key part of the research project. It is important that research topic will meet the requirements of the institution offering doctoral study program. A research aim is a brief statement of the purpose of the research project, following by clearly defined research questions. The research questions expresse what research is about. Clearly formulated research objectives operationalise how research will be conducted to answer the research questions. A carefully prepared research proposal has the potential to provide a clear specification of the what, why, how, when and where research project will be solved.

Saunders et al. (2016, p. 667) summarize recommendations for writing and presenting research results as follows:

* *„Writing is a powerful way of clarifying your thinking.*
* *Writing is a creative process, which needs the right conditions if it is to produce successful results.*
* *Your project report should have a clear structure that enables you to develop a clear storyline.*
* *Your structure you use should be suitable for the nature of your research strategy.*
* *Your structure you use should also be suitable for the reports’ audience.*
* *Your report should be laid out in such a way that your reader finds all the information readily accessible.*
* *You should try to develop a clear, simple writing style that will make reading the report an easy and enjoyable experience.*
* *Spelling and grammatical errors should be avoided.*
* *Do not think of your first draft as your last. Be prepared to rewrite your report several times until you think it is the best you can do.*
* *Failing to prepare for your presentation is preparing to fail.*
* *Visual aids will enhance the understanding of your audience and lend your presentation professionalism.*
* *Remember: tell them what you’re going to say, say it, then tell them what you’ve said.”*

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Figure 2: Example of Gantt diagram………………………………………………………………….25