Sounds LIKE A THESIS!

A quick guide on how to write and present your Bachelor or Masters thesis like a Rockstar.

Written and designed by

Francisco Tigre Moura
Clare Hindley
This book is dedicated to all students with curious minds. Or simply to anyone who enjoys research and music. And coffee, of course.

Francisco and Clare.

Reference this e-book


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WHO IS IN THE BAND?

PROF. DR. FRANCISCO TIGRE MOURA
Ph.D in Marketing (University of Otago, New Zealand). Currently a Professor of Marketing at IU University of Applied Sciences (Germany). Passionate about everything that involves Music, Marketing, Technology and the Future.
francisco.tigre-moura@iu.org

PROF. DR. CLARE HINDLEY
Professor of Language and Communication at IU University of Applied Sciences with a Phd in Sociolinguistics from Cardiff University. Lecturing primarily in Research Methods and Intercultural Communication with a passion for society, culture, food and music.
clare.hindley@iu.org

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1. The scientist (Coldplay)
2. My way (Frank Sinatra)
3. Good riddance (Green Day)
4. The end (The Beatles)
5. We are the champions (Queen)

Sounds LIKE A
THESIS!
Ah... Follow and watch the full Thesis Writing video series on YouTube.

What will you find?

1. How to develop a thesis idea
2. Writing the introduction chapter
3. Writing the literature review
4. Methodology chapter
5. Writing your results
6. Writing your conclusions
7. Limitations of your research
8. Managerial recommendations
9. Colloquium / Oral defense preparation

Sounds LIKE A THESIS!
Hello my friend, how are you? I am really glad you are here.

But if you found this book I can only assume one thing: you are either a Bachelor or Masters student, enrolled in a management related course, trying to write a thesis before pulling all your hair out and giving up on it all.

Is that a fairly accurate description?

Well, again, I'm very happy you are here. Do not worry, you will not lose all your hair. I'll take you through the entire journey and, hopefully, you will actually enjoy life and get to know good new music.

But before we start, please note:

These are our personal suggestions.

Scholars normally have different views and/or expectations. So don't forget to discuss your research ideas with your supervisor... and importantly:

Read carefully and follow the guidelines of your university.

After all, your work will be evaluated at your university. So, now that we are clear, shall we start?
Welcome to the Jungle!

**Artist:** Guns n’ Roses

Before we start, and I tell you all about how to develop a thesis idea and write all other chapters, let me first give you some initial advice. These are generic tips you should ALWAYS keep in mind while writing your thesis and should help during the entire process.

**You will write the thesis for your reviewers to read. So help and guide them in understanding your work.**

What this means exactly is that you must work on facilitating their understanding of your work. **Remember:** a thesis is a long document.

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**So never let the reader get lost!**

**I will be honest with you:** Supervisors and/or reviewers have many other duties apart from reading your thesis. They will probably read it a few days prior to the colloquium, maybe in bed watching a series or lying on the couch.

So what do you have to do? **MAKE THEIR READING EXPERIENCE SMOOTH!** The easier it is for them to read it, the more they will understand and better evaluate your work.

**If the reviewer gets lost, your evaluation will be compromised because they will simply be confused and will not understand what you are trying to achieve or have done.**

And how do you make sure the reader is never lost? From the start, you work on two things: **STRUCTURE AND FORMATTING:**

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**A) STRUCTURE**

**Remember:** The way you structure (organize) your thesis will influence how reviewers read and understand it. And consequently, how they will evaluate it.
So always try to start your chapters (literature review, methodology, results, conclusion and limitations) by reminding the reader what your research aim is (overall goal of the thesis).

Also, finish each chapter with a section titled “Summary of the Chapter” in which you remind the reader what was discussed in the chapter and what the next chapter will cover. This way the reader will always be reminded where they are and where they are going (This should only be one paragraph long).

Finally, avoid super long sections. For example, sometimes in the “literature review” or “results” chapters students often have pages and pages without any interruption. When this happens the reader will simply get lost. So create headings and sub-headings to facilitate the reading and understanding.

B) FORMAT

The formatting of your thesis, and its overall visual appeal, will indicate to the reader how much attention to detail you gave it. In other words, how much you cared. So if you submit a thesis which looks careless, the reviewer will immediately develop a bad impression. And not only that, but a well formatted thesis, is a thesis which is easy to read and follow.

So your thesis must LOOK GOOD!

How do you do it? Well, from the start you should:

- Follow carefully the academic referencing style you will use: Harvard or APA, for example.
- Have original and well designed (and labeled) tables and figures.
- Be consistent with formatting: font sizes, font types, etc.
- Have properly labelled sections.

This is your thesis, your journey. So enjoy the process and make it fun!

This is your journey, your moment. Throughout your thesis writing period, you will have challenging moments and others, which will be extremely fun and exciting. And it will be even more unforgettable if you manage one thing: to have fun.
Throughout the entire journey, during both the exciting and boring times, try to make it interesting. For example, I always work listening to great instrumental music (lyrics distracts me a lot).

I also always like having good coffee or some nice drink. Usually I also write much better after having done some form of exercise, having gone for a walk and taken a nice shower.

The point I am trying to make is: build in a nice routine - one that makes you feel good and happy (as cheesy as this may sound).

**A thesis is not a sprint. It is a marathon.**

So the only way you will see the finish line is if you take care of yourself, of your health and truly build a routine that you enjoy. Call me crazy, but during my PhD in New Zealand I built such a nice routine of going to the library, having food breaks and going for drinks at night after a long day of writing (on the weekends) that I truly missed it when I was done.

Oh, and my final suggestion is: **Do not force it.** If one day you feel you are being completely unproductive, you are sitting, but nothing is happening, let it go. Yeah, really let it go. Go out, meet friends, watch a nice film. Afterwards you will feel rested and will have a "good bad conscience". Given that you missed one or two days of work, you will probably be much more productive afterwards - much more than if you had forced work when you did not feel like it.

But just don't turn this into a routine, ok?

So...
How to develop a thesis idea.
My friend, let me ask you a question:

Do you already have an idea for the thesis?  
Do you perhaps have one but you don’t know exactly how to structure it?

Just please don’t tell me you are sitting on your couch squeezing your brain hoping that some interesting and meaningful idea will come out. That is certainly NOT how it works!

From now on, let me show you, step-by-step how to develop a fantastic thesis idea for any management related course at Bachelor or Masters level. Are you ready? The first step will be how to structure your initial idea.

Let’s go!

**STEP 1: STRUCTURE YOUR INITIAL IDEA**

The very first thing you must understand, in order to structure your thesis idea, is the difference between CONTEXT and THEORY.

This is extremely important and something students very often get wrong. After understanding the difference, we’ll discuss how to define them in your thesis idea, ok?

So here we go, one concept at a time:

A) CONTEXT

Very often I hear the same line from students: "I would like to write my thesis about..." and then they mention a product or a service. Like, electric cars, or smartphones, or music concerts.. or children under five years of age.... or organic food.... or fast-fashion..."

That’s it. That is all they often tell me.

Well, well, well... In all of these examples they only told me the CONTEXT of their study.
In a study, **CONTEXTS** are scopes to which, or in which, a study is applied. So it is fairly easy to determine, but it does not reveal **WHAT** the study will investigate.

**Contexts** of study can (or should) be narrowed to, for example:

- **Consumer group:** e.g. High income, Seniors, Loyal customers, Innovators.
- **Product/service category:** e.g. Beer, headphones, food delivery, coffee.
- **Markets:** e.g. Brazil, Australia, Germany, USA.

**... and the more specific you define your context, the clearer your study will be!**

So, for example, you can define your context based on all three scopes: sample, market and product/service category. Here are two examples:

- **Example 1:** You can conduct a study involving adults over 50 years (Sample), China (Market) and virtual reality glasses (Product category).
- **Example 2:** You can conduct a study involving Bachelor Students (Sample), New Zealand (Context of market) and music festivals (Service category).

Also, you can choose more than one context of sample, market or product. Usually when this is done, the study involves comparing the different markets, samples or products. And these tend to be very interesting studies!

Here is one example of a study, which would compare two contexts:

- **Example:** A study comparing three consumer groups (low income, medium income and high income) in relation to video streaming behavior (Service Category) in Germany (Market).

Seems interesting, right?

Ok, I feel you have understood what a context of a study is. **But what if you do not even have an idea of which context to study? Would you like to know how to choose the context(s) of your study?**
First thing to consider is your personal **passion**. My friend, what are you passionate about? (Please tell me you are **PASSIONATE** about something!).

You see, no matter your passion, you can always research it. This way, you will understand it even more and feel even closer to it. Sounds pretty good, doesn’t it?

**Remember: writing your thesis will require time and a lot of effort.** Would you really want to discuss something you are not fond of? Of course not. **So follow your passion** - sounds like a cheesy line you would tell someone you are interested in on a drunk Friday night, but it is true!

Second aspect to consider, is the **relevance of the study**. For example, how timely is the context that you chose? Currently there are many relevant topics that are of interest to many people: global warming, VR, AI, AR, sustainability, technology experiences...

There are also topics that will always be relevant, no matter the time. So make sure to choose contexts that are: a) relevant for society and, b) relevant for the industry.

An interesting way to find relevant timely topics for society or the industry is to simply visit credible sites related to both (general news and industry related news sites). Follow those sources, their social media channels and catch up on the main discussion topics around the context you are interested in.

Finally, you might ask yourself: **what if my passion is outdated?** Well, well, well... In case you are interested in researching, for example, coal as an innovative source of energy, you are definitely on the wrong path. But always discuss it with your supervisor. There is always a way to link your interest to a current topic or adjust to frame it into a research topic.

All good with understanding **context**? Great, let’s move on!

### B) THEORY

Ok, so let’s assume you chose Adults (Sample), China (Market) and virtual reality glasses (Product) as **CONTEXT** for your study. Very good start!

The following step refers to addressing the question:

**WHAT would you like to understand/research about adult Chinese consumers of virtual reality glasses?**

Answering this question will allow you to define which **theoretical concepts** will form the rationale of your study and indicate what will be researched. For example:
Would you like to ....

- understand the **motivation** factors for purchasing VR glasses?
- investigate their **willingness to buy** the product?
- analyse their **attitude towards product attributes** of VR glasses?
- examine the **telepresence** experience at work, when using VR?
- establish their **post-purchase evaluations**?
- or maybe investigate how **branding** and **situational factors** influence the decision making process of VR glasses?

All of the concepts highlighted are examples of **theoretical concepts**. Defining them is **CRUCIAL** for you to define what your thesis will be about.

Later on, your literature review chapter will cover purely **theoretical concepts**, not context. So you must define them!

And how do you **choose your theoretical concepts**? How do you know which concepts apply to the context of your study?

**Well, the main solution:** read previous scientific studies related to the context of your study. By doing so, you will familiarize yourself with what has been researched and identify research gaps.

(You were expecting a quicker and easier solution, right? Well my friend... there isn't one. Sorry.).

And how do you find such studies?

- **Google Scholar:** Google Scholar is perhaps the easiest way to start. You simply use keywords related to your context to start with. Go through (this means actually reading!) the studies and see which concepts have already been applied by other researchers and why.

- **Digital library of your university:** Most universities have their internal system of digital catalogues. Does your university have a digital library? Access the scientific journals!

- **Search for research gaps:** Most scientific studies provide (in their last section) ideas for future research directions. You may choose to develop a study suggested previously by those authors (make sure to contact them and inform! They will appreciate it!).
**STEP 2: DEFINE YOUR RESEARCH AIM**

Once you have defined the context of your study and the main theoretical concepts, the next step involves defining your research aim.

**What is a research aim?** The research aim represents a general statement which describes what your study “aims” to do. Got it? It is really important because it should inform the reader what your study will be about and is usually the first thing reviewers will look at (at least I do).

Here are some further hints for developing your research aim:

- It is a statement, which ideally should be **ONE** (TWO maximum!) sentences long.
- It should be **short, objective and clear**, enabling readers of any audience to understand what your study will be about.
- Also, your aim should ideally include your research context(s)
  - **Sample**: Which consumer group(s) will you address?
  - **Market**: Which market(s) will you address?
  - **Product/service**: Which product(s) will you address?

- Finally, your research aim should also include (or provide clear indication of) the main theoretical concepts applied to your study.
  - **Example of theoretical concepts**: Quality, trust, decision making process, willingness to purchase, risk, telepresence, satisfaction, loyalty, etc.

Here are three examples of research aims, combining all of the suggestions above:

- **Example 1**: This thesis aims to investigate the influence of virtual reality (context of product) on the decision making process (theoretical construct) and willingness to purchase (theoretical construct) of millennial (context of sample and service) in Germany (context of market).

- **Example 2**: This thesis aims to investigate and contrast the impact of coffee (context of product) advertisement on Instagram (context of medium) on college students’ (context of sample) perceptions of trust, willingness to purchase and quality (theoretical concepts). The study will compare participants in USA and Germany (context of market).

- **Example 3**: This thesis aims to compare concert goers in Brazil and New Zealand (context of sample) risk perception (theoretical context) towards the use of facial recognition technology during concerts (context of service).
Alright, so by now you have understood the difference between context and theory, and how to develop your research aim. Well done, I am already proud of you!

So, since we are here, the following step is to define your research objectives. The objectives represent the main steps you need to go through in order to fulfill your research aim. So basically, the objectives are the overall steps of your study.

Essentially, here is the logic to follow when designing your research objectives:

You should develop them in a way that after addressing all objectives, you will have fulfilled the research aim of your thesis.

Got it? Goooood!.... But my friend, in case you have not understood, please read the previous sentence as many times as necessary until you do. It’s very important you do!

Now that you’ve got it, here are some further recommendations on how to develop your research objectives. First, there is NO specific number of objectives that your thesis should have. It depends on each project. But there is a logic to it. For example:

Usually, the first objective refers to the review of scientific literature of the main theoretical concepts of your thesis.

Here is one example to illustrate it:

- **Example:** The first objective involves the review of the relevant scientific literature regarding the concepts of decision making process and willingness to book in the tourism context.

Also, usually, the following second, third, fourth (or more) objectives of your thesis will describe the data collection process of your thesis. Thus, these research objectives should provide an indication of what you want to achieve in the data collection process.
Here are two examples:

- **Example 1**: A structured survey will be conducted with senior alcohol drinkers in order to identify the frequency of consumption and concerns towards alcoholic beverages.

- **Example 2**: A focus group will be conducted with German classical musicians to discuss their self-evaluation of anxiety and sense of belonging.

**But pay attention**: each step of data collection should be described as a SEPARATE objective. Ok?

And to finish off, usually the **FINAL** research objective describes managerial recommendations based on the findings of your study. It should focus on what companies and managers should do, based on the implications of your findings. Here is an example of a final objective:

- **Example**: Lastly, this thesis will provide clear and applicable managerial recommendations for travel agents, tourism professionals and academics on how to better assist senior travelers during their online booking process.

My dear friend, glad you made it all the way until the end! Well done. You definitely deserve a cold beer outside, listening to the playlist of this book on Spotify. Only this way will you be able to process all the information and reflect on your thesis idea.

But before you go get your cold Hop House 13 (my favorite beer) from the fridge, let us go through the main recommendations suggested in this chapter:

- **First**, define the context of your study. It should be both relevant for the industry and/or also part of your passion.
Second, define the theoretical topics for your study. They should be based on the review of previous scientific literature, and logical to what you want to achieve with your study.

Third, define the research aim of your study. It should include context and theory, and be clear and concise.

Finally, define the research objectives of your thesis. Make sure that you developed your objectives in a way that by completing all of them your aim will be fully addressed. Also, check the first is related to the review of the literature, the next ones refer to each stage of data collection and the final one is related to managerial recommendations.

And my final recommendation is: Don’t forget to discuss all of your initial research ideas with your supervisor. This is a very important stage to get right. All your following decisions will be based on what your study is about!

Oh, one very final tip for the meeting with your supervisor:

- **Bring coffee for both of you.** Caffeine helps the flow of creative ideas. And in case I’m your supervisor, please bring cappuccino without sugar - never tea (tastes only like hot water to me).

- **If your supervisor tells jokes, laugh as if you like them.** Jokes from academics are hardly ever good, but being silent will make it even more awkward.

And now... Rock on to the next stage!
How to write the introduction chapter.
My dear friend, it seems like you’ve made progress since the last chapter and you have developed your thesis idea.

**That is brilliant! Congratulations on your progress!**

Since you now have a clear idea of what to do for your research, shall we discuss how exactly to start your Bachelor or Masters thesis? I have a few (hopefully) useful tips for you to write a great Introduction chapter to impress your supervisor and reviewers.

But first, **please note:**

There is **NOT** one specific correct way to structure the **Introduction chapter**.

However…. I normally ask my students to follow this structure:

1. **Introduction**
   1.1 Personal motivation
   1.2 Research aim and objectives
      1.2.1 Research aim
      1.2.2 Research objectives
   1.3 Structure of the thesis

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Let’s now discuss each section of the chapter in detail. This way you won’t miss anything and will write a killer first chapter!
My friend, imagine the following scene:

You just arrived home and you tell your grandma you are writing a thesis and she asks to read it. The problem is that your work is titled “Applying Machine to Machine Interaction to Improve Sustainable Practices in Music Festivals”.

Would she know what “Machine to Machine Interaction” is? Maybe she does and even more than us two put together. But let us say she does not. How would she understand your thesis?

And would she know which sustainable practices are applied in music festivals? Perhaps she went to Woodstock in 1969, had an affair with Jimmy Hendrix and helped them reduce waste. But, again, let’s assume she has no clue what it is. How would she understand your thesis?

Here is the main goal of an introduction chapter: The reader has to be able to read your introduction and have a good OVERALL idea of the topic and become familiarized with the CONTEXT of your study.

HOW TO DO THAT?
SIMPLE. DO THE FOLLOWING:

First thing to know: This will be the longest section of the introduction chapter.

It is impossible to determine the number of pages you should write. But in comparison to the other sections in this chapter (e.g. 1.1, 1.2 and 1.3), this will for sure be the longest. Because as I told you before, it should help the reader to familiarize themselves with the context of your study.
Introduce and explain basic concepts of your thesis to your reader for the first time, in a simple way.

Leave the detailed descriptions and definitions for your Literature Review chapter. In the example above, you could explain, for example, “Machine to Machine Interaction”. What is it? When did it start? Also, sustainability practices applied in Music Festivals. Which are they? What are examples of practices applied to music festivals?

Present reliable industry data to provide an overview of the general trend regarding your context.

Industry data will also help the reader become more familiar with the context. For example, what is the trend within the industry sector/product type/service type you are discussing? In the last decade, has it increased? Has it decreased? How large is the global/regional market size? What are sales volumes of key players?

This is particularly important, because it will allow the reader to have an overview of the main topic your thesis will investigate. So make sure to use RELIABLE sources for your data. For example, renowned institutions and organizations, research groups, scientific publications.

And please, do not forget to reference all your data correctly. ALWAYS.

1.1 Personal motivation

Here is the section of the thesis where you describe your motivation for conducting your study. It is also the place where you give a bit of personal information and the reader can know more about the background which led you to develop this study.

In other words: Use the space to justify the topic, understand more about it, and explain why it is important to you. Why would you write about “Applying Machine to Machine Interaction to Improve Sustainability Practices in Music Festivals” and not about any other random topic?

HOW TO WRITE IT?
SIMPLE. DO THE FOLLOWING:

To explain your motivation and why you chose this topic you should ideally be open and personal. For me, it is the only section in the thesis where you could write in the first person (other academics might disagree with me on this, but it’s ok).

Oh, and keep this section SHORT. Two good paragraphs should be enough.
1.2 Research aim and objectives

Well.. If you closely followed the recommendations on how to develop a thesis idea (previous chapter of this book), then this section will be VERY SIMPLE.

If you have not read it (shame on you!), please go back to the previous chapter. If you have, (good on you, I'm proud!), then simply describe your research aim in this section.

In a sub-section 1.2.1 you will include your research aim and in sub-section 1.2.2 your research objectives. The research objectives in 1.2.2 can even be stated simply in bullet points.

See, I told you this section would be easy.

1.3 Structure of the thesis

This section will be even SIMPLER!

Even if you have a headache, your team lost, you ran out of Oreo Ice cream Sandwich in the fridge and your 6 year old neighbor is learning to play the violin, you can still write this section.

Why? It will only take you one or two paragraphs. All you need to do is inform the reader what will be discussed in the following chapters. In other words, this short section helps the reader to have an overview of your entire thesis. That is all.

Academics often have two views as to when to write the introduction chapter: either as the first chapter to be written or as the last when your work is fully done.

With the guidelines I have provided here, it can easily be the first chapter you will write. Also, it is much more straightforward to contextualize the context of your study than it is to dive deep
into the existing literature. Plus, after concluding this chapter you will surely have the impression you have truly started the thesis. After all, there are already some pages written, a good draft of a chapter.

This will give you a great deal of motivation to start the next chapter: the literature review.

The next chapter (literature review) will not be as fun, fast, nor easy, as writing the introduction chapter. But you will make it!

So for now, put on some comfy clothes, nice music in the background and put away your smartphone. Head down and get the introduction chapter done!

It should not take you more than three good days of productivity to have a wonderful first draft of the introduction chapter, ready to discuss with your supervisor.

And just let me know once you are done. I'll meet you in the next chapter and will tell you how to write your literature review.

And now... Rock on to the next stage!

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Full soundtrack for the Introduction Chapter

1. Start me up (Rolling Stones)
2. Get up, stand up (Bob Marley & The Wailers)
3. The start of something (Voxtrot)
4. Starting line (Holy Holy)
5. Starting from scratch (Carl Broemel)
How to write the literature review chapter.
Let me guess: By now, you know what you will write about, you have mastered Chapter 1 (Introduction) but you don’t know how to move forward with Chapter 2 (Literature Review)?

Alright, alright... I feel your pain. But do not worry, my friend. In this chapter I have a series of recommendations that, hopefully, will be useful for you! But first...

**WARNING!**

Look, I need to be honest with you here: Writing your literature review chapter will not be the most entertaining thing you have done in your life.

Writing a literature review is definitely not like sitting in the sun on a tropical beach with the water lapping over your feet exactly when the waiter comes to serve you a dish of fresh fried fish and a bucket filled with extremely cold beer while your gorgeous smiley partner gives you a back massage, while singing beautifully to “God Only Knows” (best Beach Boys song).

By the way, do you know the Beach Boys? If you don’t know the band or the song, please check out their album "Pet Shop Sounds". Truly incredible.

Anyway... getting back: Writing a literature review is nothing like the scene I described above. It feels more like going to the dentist at midday on a hot Monday to have three teeth pulled out without an anaesthetic, while your friends are on vacation.

Is it fun? **NO.** Do you have any choice? **NO.** And is it important? **VERY.**

**Summing up:** There is no way out. So head down, take a deep breath and get it done!

**LITERATURE REVIEW HACKS? SIMPLE. DO THE FOLLOWING:**

1. The first important thing to know is that you will **ONLY** discuss theoretical concepts related to your topic. You will **NOT** discuss the context of your study.
Remember how in the beginning of this book we discussed the difference between **CONTEXT** (product, sample, market) and **THEORY** (satisfaction, risk, quality, attitude)?

**The main mistake students make when writing a literature review, is to discuss the context of their study.** For example, if the study involves social media, the student writes about the different types of social media and explains how they work. Or if the study involves electric cars, they explain the different types and models.

Why do they do it? Because it is **easy**. However, it is **wrong. Very wrong. Extremely wrong.**

Let me give you another example:

Assume you want to understand the buying criteria of consumers in regards to Smartphones. And that the title of your thesis is: “Understanding Consumers’ Evaluation of Smartphone Attributes during their Purchase Decision Making Process”.

In this chapter you will **NOT** discuss smartphones (e.g. Describe types, brands, etc). This is simply your **CONTEXT**, which you contextualized in the Introduction chapter. Here, in the literature review, you will discuss the **THEORY** (applied to your context!).

So in this example, your literature review could look something like:

1. Decision Making Process (**BROADEST TOPIC**)
2. Product Value Perception
3. Consumer Motivation and Involvement
   - 3.1 Consumer Involvement with Electronic Products
4. Attribute Evaluation
   - 4.1 Fischbein’s Theory: Multi-attribute Model
5. Smartphone Attribute Evaluation (**MOST SPECIFIC TOPIC**)
6. Research Gap
   - 6.1 Research Aim/Question

With this structure, would you discuss types of cellphones or their brands? **NO!** Again, **NO!** There are only **THEORETICAL** concepts listed and related to the context of the study!

Also, did you notice that the list goes from the **BROADEST** (most general) topic to the **MOST SPECIFIC** topic? Exactly! That’s the second recommendation I have for you.

Think of your Literature review as a **FUNNEL**. Yup, you heard it. A FUNNEL! You must structure it so that you can discuss topics by arranging them in a logical order from the broadest topic until the most specific!
So use your imagination and please try to envision the figure below as if it was a FUNNEL (Please do not judge my funnel sketching skills!).

1. Decision Making Process  
   (BROADEST TOPIC)  
2. Product Value Perception  
3. Consumer Motivation and Involvement  
   3.1 Involvement with Electronic Products  
4. Attribute Evaluation  
   4.1 Fischbein’s Theory: Multi-attribute Model  
5. Smartphone Attribute Evaluation  
   (MOST SPECIFIC TOPIC)  
6. Research Gap  
   6.1 Research Aim/Question

IMPORTANT: HOW DO YOU KNOW HOW TO STRUCTURE YOUR CONCEPTS FROM THE BROADEST TO THE MOST SPECIFIC?

This is an impossible question to answer here. Why? Because there is no rule of thumb. It depends completely on the rationale of EACH project.

So sorry to disappoint you by not having a magical solution. My main recommendation is for you to reflect on the logical sequencing of the literature as you develop it.

And remember to always discuss it with your supervisor.
Conclude the literature review chapter by presenting the research gap you have identified and by reminding the reader of your research aim.

After having concluded the literature review, you should provide a clear indication to the reader of where your work is heading. This is then, the moment you present your research gap.

In sum: In the final section you will "connect all dots" (key concepts) to illustrate what has not yet been done on the topic, and how your work will address it.

Consequently, it is a good opportunity to remind the reader of what your research aim is (again!), as it will inevitably address the research gap.

Basically, the reader has to read your RESEARCH GAP section and think: “OHHH... Now I understand how all the theoretical concepts connect, what has not yet been investigated and what you are trying to investigate”!

Only Include (many!) reliable scientific sources. And use them wisely!

Use ONLY scientific articles, books and conference papers to define and explain concepts and previous studies. Why? Scientific articles, for example, are peer reviewed, and thus, deemed as the main credible sources in academia (generally speaking, I know). You may also wish to verify the ranking of the journal where the paper has been published. It is always good to have many from high ranking journals.

DO NOT use commercial websites to describe concepts. The literature review chapter is certainly not the place to be using commercial websites as sources. It will certainly weaken your work. Commercial sources are not seen as credible in academia, and will also show you did not do the homework of going through the scientific literature. Especially if you are a Masters student, it can completely compromise your work!

So in case you see an interesting study reported on the news, for example on BBC or CNN, search for the primary source of the work that was discussed, ok?
Avoid **OVERUSING** the same author or paper to explain a concept. Why? Basically what you will be indicating to the reader is that you were too lazy to look for other works. So you basically found one and referenced it again and again. So stop being lazy, look for other works and boost the reference list!

**Finally, do not overuse direct quotes.** Why? There is no issue using direct quotes. They are important and useful. However, they must be used only when truly necessary. For example, on the definitions of concepts or to exemplify the answers of respondents in your results chapter. If you overuse direct quotes, you will tell the reader one main thing: "I am lazy and instead of reading the literature and reflecting on it to write in my own words, I simply copied it many times for it to explain itself". As you can imagine, it will negatively affect your final grade.

**Be careful to correctly reference** the previous works and avoid any practice that can be deemed as plagiarism by the reviewers. **NEVER PLAGIARIZE!**

**Make sure to reference the content according to the style required by your institution.** Why? Remember: in a literature review, you must always **paraphrase** the content. What that means is: you must read through the literature and write in your own words, as you interpret it.

So, regardless if in APA or Harvard styles (or any other style required by your institution), make sure to reference all sources correctly and have them all included at the end, in your reference list.

**PLAGIARISM WARNING!**

Reviewing the literature and writing is a tough task, and requires time, effort and critical thinking, it is where students most often **plagiarize** (copying entire sentences from the original work and pasting as if it was theirs). My friend, I am taking the time to write this e-book for you. So please **NEVER DO THIS!** I warned you since the start: the literature review will not be the most fun chapter, but you must go through it correctly.

**Plus, with the development of originality detector software and sites such as Turnitin, it has become much easier for academics to detect plagiarism.** Therefore, make sure to **NEVER** copy and paste parts of the other work of others.

**But if a passage of someone else's work is very important, such as a definition, remember:** Simply cite it correctly. Use a direct quote, with quotation marks, reference the author(s) correctly and include the page number! This way you are safe!
IMPORTANT SOURCES FOR THE LITERATURE REVIEW.

Academic Referencing Guides
In case you are still unsure how to reference and cite academic works correctly, I would strongly suggest you ride in the safe lane and search for the following books:

- Hemming, D., & Helwig, M. (2021). *Cite it right! An Introduction to Citation Styles and Citation Management Tools*.

Reference Manager Software
Also, while writing the literature review and trying to reference, it can be that you find it difficult to remember the papers and know exactly how to add the references to the texts. But you do not have to worry, because there is plenty of software that you can use. Here are some I would recommend:

1. Mendeley.
2. ReadCube Papers.
3. EndNote.
5. Zotero.
6. Cite This For Me (formerly RefME)
7. Paperpile.
8. Sciwheel.
Yup, told you: doing a good literature review is not necessarily fun (although it can be!).

So make sure to follow the recommendations I have provided:

- Only discuss theoretical concepts and previous studies. Do not make it about your context!
- Think of the logical sequencing of your topics, ranging from the broadest to the most specific.
- Paraphrase previous works, and use direct quotes only when truly necessary.
- Use sources wisely and many of them.
- And never... I mean NEVER, EVER plagiarize anybody's work.

So... if you are done with your literature review, if you are familiar with a series of previous works that means your project is about to start to be fun!

Next up is the preparation for data collection. There we will talk about your methodology.

**And now... Rock on to the next stage!**

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**Full soundtrack for the Literature Review Chapter**

1. The long and winding road (The Beatles)
2. Highway to hell (AC/DC)
3. Why are we here? (Christian Smith)
4. Get me out of here (Caleb Elliott)
5. Dazed and confused (Led Zeppelin)
How to write the methodology chapter.
My friend, can you cook?

I will admit: I am a terrible cook. I know how to make a decent salad, incredible popcorn (to me it counts as cooking. Do not judge!) and the classic “scrambled eggs with a lot of cheese”. Apart from this, do not count on me for a fancy meal.

One day, I asked my mother (true story, by the way!) for a lasagna recipe. My friend, I swear I followed every single step she said and in the end what I had was so far from a lasagna, that I was even embarrassed to call it a lasagna. The white sauce was not thick enough, the meat was raw and overall it all got a bit burnt. But was I a bad cook or was her recipe not detailed enough?

Not sure, but in the end I just ordered a burger with fries.

---

**Insight**

The logic of a recipe is that if you follow every single step, you should be able to reproduce it exactly every time and make great meals. But as I just explained, it does not work exactly like that.

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**In research, the recipe is the methodology chapter.**

And the logic is: it should describe how your study was (or will be) done, step by step, to the point that anyone else would be able to replicate it.

---

**Why is the methodology chapter so important?**

The methodology is of extreme importance because it shows the recipe you followed during the development of your research. So defining an accurate recipe to address your research aim is vital.

In case you use an inaccurate or weak methodology, all your results, conclusions and managerial recommendations WILL SIMPLY BE INACCURATE.

It is irrelevant that you had an incredible research question or aim, if you researched it with the wrong methodology. Measuring incorrectly, will lead to equally inaccurate data. For example, if you did not apply the most suitable method or choose the right sample. In sum, **EVERY RESULT WILL BE INACCURATE.**

**For example:**
Imagine this bizarre scenario for a second:

You go to the doctor because you are feeling weak and without energy (the research problem). The doctor will then apply a method to gather data, interpret it and come up with conclusions and recommendations to give you so that you can recover.

But imagine that in order to identify the causes and symptoms of your weakness, s/he takes an X-ray of your foot and tells you everything is fine. Would that be accurate? NO. And why not? Because taking an X-ray of a foot will not tell you the causes and symptoms of a feeling of weakness.

In other words: the method of investigation chosen does not address the problem correctly. The doctor should at least measure your blood pressure and/or your heart. (My friend, don’t judge my medical knowledge. I’m not a doctor, just trying to convey a point here!).

But do you get what I mean? What I am trying to say is that your methodology chapter is SUPER important because it will tell the reader HOW the research aim/question of your thesis or research paper was addressed... and if it was appropriate or not in addressing the research aim.

So if it’s so important, what should you include in your methodology chapter? Now we get to the juicy part of this chapter. Let me take you through it!

IMPORTANT SECTIONS TO INCLUDE!

If you noticed, I wrote the title of this section in capital letters. That means that the information, which is about to come, is very important and that you must pay attention (In modern days, CAPS LOCK convey a lot of emotion. Weird).

So yes, pay attention to what is about to come.

DISCLAIMER

I am not here to try to explain to you what the methodology of your work should be. The designs, methods, measurements, sample and so on of your study will depend on your RESEARCH AIM/QUESTION/HYPOTHESIS. So make sure to discuss with your supervisor the methodology you should apply to your study. I am simply making clear all the relevant sections you should include in your chapter so that you do not forget any relevant information, ok?

Ok? Good... Here we go!
1. Research design

This section will inform the reader of the NATURE of your study. In other words, broadly speaking: are you aiming to describe a phenomena (descriptive design), are you aiming to explore a topic (exploratory design), are you looking to identify causal relationships between factors (causal design)?

PS: It is beyond the scope of this book to explain to you what every design is and how they should be applied. So make sure to gather good methodology books and do two things:

- **First**, Explain the different research designs, using academic references (use research methods books for reference);
- **Second**, Explain WHICH design you have used (or more than one, in case it is a mixed-design study) and WHY it suits your research aim.

2. Research method(s)

Following the description of your research design, you should also devote a section to describing the research method(s) you applied during your study. Each research design will provide you with many possibilities of methods to use.

Similar to the section before, here you should:

- Explain WHICH method(s) you have used and WHY it suits you to address each research objective.

**Should everybody include this section?**

**OH YES!**
3. Measurement

Once you clarified the method you used, it is time to explain exactly WHAT you measured. These should be some of the theoretical concepts you discussed during your literature review. For example, service quality, brand image, satisfaction, purchase intention.

You should also explain HOW you measured each concept: For example, if using scales, for each concept it is important to:

- Explain the range of Likert-type scales you used (e.g. 3, 5, 7 points)
- Describe the number of items of the scale
- Reference the scales
- Provide references of other studies where the scales were used

Also describe any other question in your questionnaire (e.g. demographics, filter question, single items).

In case you are developing interviews or open questions for focus groups, for example, include the description of the core concepts and the rationale for the development of the questions.

It is super important to once more be very detailed here. Always keep in mind: **If someone wants to measure the same things you did, will they have enough information to replicate it?**

4. Sample and Population

In this section you should detail (at least!) the population of your study, your sampling technique (which technique you used to select the people who took part in your study) and how you established your sample size.

For each of these topics, you may create bullet points to address them.
5. Data Collection Process

Here you should detail exactly how the data collection process happened. For example:

- **When** it took place and **how often** (e.g., in which year and month, for how many days)
  - Was it a cross-sectional or longitudinal study?
- **In which places** or **channels** did it happen?
  - If online, on which sites or platforms?
  - If offline, where exactly and under which circumstances?
- **What exactly was your role?**
  - Did you have any participation? If so, how?
  - What was the role of participants?
    - What did they have to do?
- **On average, how long it took for each participant to participate?**

6. Validity and Reliability

Now, here is a **SUPER** important section that 99% get wrong (I completely made up this figure, simply because I want to convey a point!). **Validity** (in short, that you measured what you intend to measure) and **reliability** (in short, that the measurements used, such as your scales, are consistent and have high internal consistency) are two concepts that simply have to be addressed and have to do with your measurements.

Once again, describing what each concept is and how you should address them is beyond the scope of this section. So **PLEASE** go through them in research methods books, discuss it with your supervisor and write in this section **WHAT** the concepts are and **HOW** you address them in your thesis, ok?

**Honestly, PLEASE do it.** I have seen so many students in colloquiums that had absolutely no clue. They knew they had to write about it, but still they had no clue.

**PLEASE** do not be another one.
7. Instruments or Equipment

Sometimes, especially in causal studies when researchers are developing experiments, it is important to detail the instruments or equipment that were used in the study.

For example, let us assume you are conducting a study on virtual reality (VR). It would be extremely important to detail which particular model of VR glasses and specific VR apps.

**Remember:** If someone wants to replicate your study and uses different VR glasses, would it affect the results? *Of course!* So for others to replicate in the same way, they must use the same instruments.

Also, the results are affected by the instruments. If I used super high-tech-mega-awesome VR glasses, would it influence the results? *Of course!* So it is also important for the reader to take this into consideration when reading your results.

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**Should everybody include this section?**

ONLY if your study involved a particular equipment or software that was relevant to it. For example, it often applies to causal studies running experiments.

8. Experimental procedure

Once again, in case you are running a causal study and an experiment, it is important to detail the experimental procedure.

You should explain in detail, to the reader for example, the experimental task (what did the participants have to do?) and all the extraneous variables that were controlled (variables of the environment that could affect the cause and affect relationship).

Very importantly, also discuss the manipulation of the independent variable (how the experimental conditions were different from one another), if it was a between-group design or a within group design.

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**Should everybody include this section?**

ONLY if your study involves an experiment.
Just to remind you: Again, these are my suggestions.

Of course different supervisors will have other ways of defining what is relevant for you in this chapter. Nonetheless, the content I have described above is the most general that almost every management-related thesis should include in their methodology chapter.

Another suggestion: **NEVER** be like those students who send us emails and ask straightaway what their methodology should be.

This does not send a good signal! So go read a few research methods books, reflect over your research aim and define what methodology would be most suitable. Only when you have doubts, contact your supervisor.

**PS: Supervisors out there, you are welcome!**

And one final thing: In case you want to thank me, do not send cooking books or books with recipes. I still do not enjoy cooking. Want to make me happy for helping you? Send me beer or coffee. Oh, and I do not like wheat beer (“Weizenbier”, in German). It has a strange smell and you need to have a specific glass to drink it (at least here in Germany). Too complex.

**And now... Rock on to the next stage!**

---

**Full soundtrack for the Methodology Chapter**

1. Don’t stop me now (Queen)
2. Step by step (Jesse Winchester)
3. Virtual procedures (Hola Beats)
4. Method to the madness (The Wombats)
5. Sample that (Skinny Hightower)
How to write the results chapter.
Do you have any friends that are terrible at telling stories of films?

My mother is like that. She once tried telling me the story of “Shawshank Redemption” (one of the best films of all times) and it was a mess. For some reason, she tends to forget details, what happened when.. And I am not even going to comment on her difficulty in remembering the names of actors, directors and even the name of films!

This is pretty bad. Why? Because no matter how good a film is, if someone cannot tell its story well, it will seem like it is terrible. Even if it isn’t!

The results chapter of your thesis is exactly the same.

If you cannot clearly tell the reader the story of your findings, no matter how exciting they may be, the reader might not understand your work... and for sure, will not appreciate it. So knowing how to report your results is very important!

HOW TO REPORT RESULTS WELL?

SIMPLE.

1. Remind the reader (again) what your research aim and objectives are.

Theses are normally long documents. So it is easy for the reader to get lost and forget what your research aims and objectives are (initially written in the introduction chapter).

So it is always good to start the results chapter by reminding the reader. For example: "In order to fulfill the aim of this thesis, which is to investigate the BLAH, BLAH, BLAH... in this chapter all results will be displayed..." and so on.

Got it?
Structure the chapter very well and make it easy to follow your results.

Depending on your methodology, number of research objectives and data collection stages, it can be that your work has a great deal of data to report. And it can even be that it has a mixed design, including qualitative and quantitative data to report.

But regardless of how easy or complex your results are, there is one important thing to always keep in mind:

If the reader gets lost while going through your results, it will compromise their understanding... and therefore, how you are evaluated!

So structure the chapter in a way to report results per research objective. For example, you may label sections as "Addressing research objective 2", or "Addressing research Objective 3".

In each section, you inform the reader: "In order to address research objective 2, which was to...". This way, it will be easy and logical to follow, and once you have reported all research objectives, the chapter will be done.

Pretty good, right?

Report your statistical results accurately.

The first important insight here is: ONLY REPORT RESULTS THAT YOU CAN AND WILL EXPLAIN. Why? When you run a statistical test, you normally receive a great deal of information from the software (e.g. averages, maximum, minimum degrees of freedom). But not all information is relevant enough to report. It depends on what you are trying to achieve!

A student that has no clue of what they are doing will include everything, because they are simply lost (I have supervised many of these!). But remember, reviewers might ask about anything that is in your thesis.

So you must know and understand everything that you put down on paper. If you are unsure, look for statistics books and discuss with your supervisor. But do not include what is not necessary or that you are unable to explain, ok? You might deeply regret what you included during your thesis presentation when facing questions about it.
Furthermore, for every statistical test that you conduct, there is an appropriate format for you to use. It is beyond the scope of this e-book to explain them, but for example: if you conduct a dependent samples t-test, you must report the means, standard deviation, the degrees of freedom, the t statistic and the p value.

One example of how you would report a dependent samples t-Test would look something like: (M = 5.1, SD = 1.3), t(22) = 7.8, p < .001.

For this, I highly recommend using the book "Discovering Statistics", by Andy Field (by far, my favorite statistics author). In it, you will see that after every test, there is a section on "How to report", which will certainly tell you all you need.

Finally, it is always good to include a brief explanation of WHY you used the test you applied to the data, before showing the results. It will certainly help the reader to better interpret your results.

Create your own tables and label them appropriately.

My dear friend... DO NOT COPY AND PASTE TABLES FROM SPSS OR ANY SOFTWARE. In your thesis, make sure to create your own tables and insert values that are relevant for your explanations. Why? Because if you are copying tables, you show lack of care and attention to detail. Also, that you have no idea what exactly to report. So you just copied the full table(s) to be sure.

So copying tables from results of statistical software, or even worse, graphs from online survey websites, is a MASSIVE NO GO!

Also, make sure to label and number all tables correctly and discuss them in the text. Tables do not speak for themselves. So simply having them in the thesis will not do the job. You have them and explain them to the reader. For example: "As seen in Table 3...".

Oh, and please make them look good. Good looking tables will improve the overall look and feel of your thesis. On the other hand... bad looking tables will give the exact opposite impression.
Do not overuse direct quotes when reporting qualitative results.

Students tend to think that reporting qualitative results are easier than reporting statistics results.

MASSIVE MISCONCEPTION!

Qualitative analysis is time consuming and also... page consuming! You need to write much more to convey the "themes" you have identified during your analysis. And here is a problem:

Very often students overuse direct quotes from respondents of the study. Do not do that! Why? Because it will imply to the reader that you did not bother to reflect on what you found. Instead, you just started adding direct quotes to fill the pages.

Direct quotes are very important when you wish to exemplify a theme that you have identified. It certainly helps the reader. But do not overuse them and do not do this as a tactic to reach the page count. Use them, but only when necessary!

If your page count allows, include a table summarizing all results.

By the end of the chapter, you will have reported so many results and findings - especially if you had more than one research objective. Now tell me... How could you possibly expect the reader to remember it all?

Impossible.

So a good way of dealing with it is to add a table, which includes a summary of all results at the end of the chapter. For example, if you had hypotheses, include them all and let the reader easily see which ones were rejected and which were confirmed.

If you had qualitative results, perhaps include one table with the main themes you identified, with their labeling and general descriptions. It would be great!
To finish off, remember at all times: you are writing your thesis for someone to read. So the reviewer cannot get lost. So take them by the hand throughout your results, explaining how and why you conducted the analysis and what exactly you found.

Do your best to be as clear, logical, accurate and structured in the chapter as possible! I know it may seem easier said than done, but you will make it. I trust you will nail it! So always remember:

**The easier it is for the reader to follow your results, the more you will be able to convey what you have found.**

**And now... Rock on to the next stage!**

---

**Full soundtrack for the Results Chapter**

1. Now that I found you (Liam Gallagher)
2. I still haven't found what I am looking for (U2)
3. Mysterious findings (Decibel Doctah)
4. Look what I found (Clangon)
5. No surprises (Radiohead)
SO WHAT

Artist: Miles Davis

How to write the conclusions chapter.
Hey, hey! Good to see you again my friend! So it seems like you have finished all of your analyses and are ready to move forward. That is excellent! But first, imagine if I asked you a deep question such as:

**How would you describe the influence of the *music* you hear on your personality?**

How would you answer this question?

You would probably think deeply, consider many factors, and try to reflect intensively on all aspects. Right? this way you would be able to give an in-depth answer with your main arguments based on a holistic reflection.

Your conclusions chapter is exactly the same! It is the moment for some deep thoughts. So here is the first important insight that I will repeat three times for you to always keep in mind:

**Your conclusions chapter is NOT a summary of your research results. Your conclusions chapter is NOT a summary of your research results. Your conclusions chapter is NOT a summary of your research results.**

Your results have already been described in your results chapter. So no need to describe them in detail again here.

**SO WHAT SHOULD YOU DO EXACTLY IN YOUR CONCLUSIONS CHAPTER?**

In this chapter your main goal is to provide an in-depth reflection on your results. In other words, after having described all of your findings in the previous chapter, you must now face another very important question:

**SO WHAT?**

In other words, what can someone (from academia or the industry) imply from your results?
Well, looking at your results and answering to the reader "so what?" is not exactly an easy thing to do. It requires a great deal of reflection, overall knowledge, and often, time to think about it all.

So here are some suggestions I would give for you to develop wonderful conclusions:

**FIRST, SWITCH OFF YOUR COMPUTER AND GO FOR A WALK.**

I do not know how it is for you, but some of my best ideas come when I am alone with my own thoughts. Forcing a reflection on your results, while feeling under pressure, will not take you far. You will probably end up with some pretty shallow conclusions.

So I suggest you switch off your computer and go for a lone walk. Sometimes we need distance from something to be able to understand it (pretty poetic, right?). You will find that some of the best insights will come in these moments.

Also, by now, you will have worked a lot on your thesis. You are getting tired and it is becoming more and more difficult to notice mistakes. So take a break, if needed. The conclusions chapter is an important one, and you should not be tired when writing it.

**SECOND, HIGHLIGHT THE MAIN CONTRIBUTION OF YOUR WORK.**

In research, discussions are like "a group of people, sat around a table in a pub, sharing their opinions". These people are the authors, and what they share are the findings of their research. They have been discussing for years, and you have critically analyzed much of it in your literature review.

What you are doing now with your own thesis, is pulling up a chair and joining them at the table. You now have something new to add to the discussion. So what will you mention? For example:

Were your results expected or unexpected? Why and how?

Do your results contradict, confirm or complement the existing literature on the topic?
In a way, the conclusion is the moment where you will highlight to the reader the main contribution of your work. So this must be very clear!

The reader must read your conclusions and know exactly how much you are contributing to the discussion on the topic. Always keep this in mind!

So link your results to the existing scientific literature, to show how they relate to previous study findings!

THIRD, PROVIDE YOUR PERSONAL VIEWS ON YOUR FINDINGS.

How do you reflect on it all? What are your views on what you have found? This is something only you can do and will show the reader the depth of your thoughts.

I remember while doing my PhD at the University of Otago in New Zealand, my supervisor Juergen Gnoth would often tell me: “you need to drill deeper”. What he meant was that I could further develop my thoughts, and take more things into consideration while reflecting on what I had found.

My dear God, have I heard this line often... But hey, it really helped me, because I would always consider how much more I could further reflect on the topic.

Oh, but despite being a personal reflection, do not write it in first person. Also, and importantly, the personal reflections DO NOT mean that you will write it as an opinion. SO how should it be?

It must be evidence based arguments.

Again, linking your results with the existing literature and theoretical concepts, which were previously discussed in the literature review.

Got it?
You already have the abstract at the beginning of your thesis to provide a summary of everything you did and found in your thesis. So the conclusions chapter is not the place for that.

Also, remember to answer an important question, given what you have found and described in the results chapter: so what? In other words, what can one imply based on your results?

Also remember: make sure the theoretical and practical contributions of your results are clear by the end of this chapter. You will do this by reflecting on your results in light of the current existing literature on the topic. And the depth of your reflections will dictate how good your chapter is.

So, if in doubt, remember: "Drill deeper".

**Alright, and now... Rock on to the next stage!**

### Full soundtrack for the Conclusions Chapter

1. So what (Miles Davis)
2. Forgone conclusions (Pedro The Lion)
3. Message (Eevee)
4. A thousand conclusions (Jacob Karlzon)
5. What I think (Outdream)
I MAY BE WRONG

Artist: Dave Brubeck

How to write the research limitations.
My friend, do you know someone who thinks they are simply perfect and has no faults? I actually happen to know a few. Well, as shocking and disappointing as it may seem to some people: no one is perfect!

Some are too tall, some too short, some enjoy country music (nothing personal), some add water to their fine whiskey (honestly, why?) and some do not drink coffee.

The conclusion is: We all have some negative sides! And, hey, research is no different! All, I mean all, research projects have something far from perfect in them. We call these, "limitations".

And what is considered a limitation of a study?

WELL, A **LIMITATION** IS ANY ASPECT THAT HINDERS A STUDY AND/OR ITS FINDINGS IN ANY WAY.

Does it mean that if my study has limitations it is useless? **NOOO!**

Very often, researchers (students or well established researchers) have concerns about clearly describing the limitations of their studies. Why? Because there is sometimes a misconception that if your research limitations are too clear for others, that readers will undermine the relevance of your work.

For example, you might be afraid others will think:

“Why are these findings relevant if there are so many limitations to the study?”

All right, first let us make three things very clear here:
Relax. EVERY STUDY HAS LIMITATIONS!

Clarifying the limitations of a study allows the reader to better understand under which boundaries the results should be interpreted.

Clear descriptions of limitations of a study also show that the researcher has a holistic understanding of the study. And this is something very positive!

In other words, clearly describing the limitations of your study should only strengthen your work! So do not be afraid to do so. In research it is of extreme importance to always be clear and honest about what you have carried out.

And what exactly constitutes a research limitation?

Here are some examples of research limitations:

1. Sample size.

Often studies wish to understand a specific topic (e.g., Brazilian consumers’ perceptions of a product) but only conduct a study with 50 participants. Considering that the Brazilian population has around 200 million people, can we generalize the results based on only 50 respondents? Clearly NOT! So consider your sample size in relation to the population of your study.
Not all studies need to have representative samples. And in fact, these are very rare. So it all comes down to the sample in relation to the overall population of the study.

2 Sample profile.

For example, many academic studies use "student sampling". There are many advantages of this, such as easy access and low costs for data collection. Nonetheless, using purely student sampling is also extremely limiting if the population of the study is comprised of people with various profiles.

So you must consider if the sample is too homogeneous, or not exactly part of the population of the study. Both issues, for example, will be limitations of a study.

3 Method.

Very often, a method is accurate for a research aim, but it also includes limitations. For example: Imagine you wish to understand consumers’ use of toilet paper (weird topic, isn't it?) and the researcher uses in-depth interviews, as the study has an exploratory nature. Would you, as a respondent, feel comfortable to describe your use of toilet paper to a stranger?

Probably not! Thus, your answers might be highly biased according to what is expected from him/her or to what is socially acceptable. So your answers might not exactly resemble the truth, due to the method. As you see, the interaction between the researcher and the participant can highly influence the result, therefore representing a limitation.

The same must be considered when the study involves any context in which there is a "socially expected answer". These would include sustainable practices and behaviors, consumption of narcotics and more.

Finally, in causal studies, laboratory experiments (artificial setting) can often be deemed as a limitation, when a field experiment (natural setting) would be a more suitable approach.
Data collection process.

In the example above, the presence of the researcher influenced the responses, right? But would it be different if the interview had been done over the phone? Perhaps yes. Why? Because the topic is sensitive and private (literally!). So the point is: The way in which you collect data can represent a strong limitation.

Some researchers collect data in busy areas such as train stations where there are many distractions and respondents are in a rush. Is this a limitation? Certainly! Thus, you must reflect to see if the way in which you collected your data represents a limitation.

Issues such as timing, environmental conditions, and other situational factors can all play a big role in negatively affecting the data collection process.

Equipment.

Imagine you are developing a study involving virtual reality (VR). You can use many different VR glasses, ranging from very expensive ones (that have an extraordinary immersion experience) to cheaper ones (that will provide an immersive experience, but not as real). Would these different models impact the results of the study? Absolutely!

So if you use equipment (e.g. devices, products, etc.) you have to consider if the type used represents a limitation or a strength of your work. Also, sometimes the brand of the equipment may also impact. Imagine you conduct an experiment and people listen to music with fancy headphones which cost a great deal. Respondents will feel really good simply by putting them on, because they are fancy and expensive.

Obviously this positive state will impact how they perceive the result. The same would happen (but in a negative way) if a brand, which is seen very negatively, is used. So the best solution is to always control the recognition of equipment, simply by covering the brand logos, for example.
Time.

Often Bachelor or Masters students have a strict deadline of a series of weeks to submit their theses. So they must be done by then! Other academics face the same dilemma. They have conference and journal deadlines. If you are conducting a consulting project, the same applies. You must submit the report by a certain deadline.

In all of the cases, researchers do not have all the time in the world. Would they do a better job if they had? Normally yes. But do we have unlimited time to do research and collect data? NO!

For this reason, “time” is a very common limitation for many studies.

Timing of the study.

Are you investigating a phenomenon long after it happened? Did you collect your data in a period that was not exactly suitable for respondents to answer? Did you conduct the study at a time where there were many other important factors happening simultaneously?

If any of the answers to the above questions are yes, then timing was a limitation.

Financial resources.

Money is always a problem (at least for me. If it is not for you, we should be friends!). Sometimes we need it to purchase the necessary equipment for a study, to hire people for data collection, to purchase a specific statistical software or to simply reward participants with products or giveaways for participating in the study.
When financial resources are scarce, all of these possibilities are compromised. Consequently, such limitations might be reflected in the results of the study. So if your study was not conducted to the extent you wished, because you lacked financial resources, then it will obviously be a limitation.

**Access to literature.**

In the majority of cases, studies start when researchers identify gaps in the literature and try to address them. However, the identification or understanding that there is a gap depends on the access that researchers’ have to the existing literature through academic journals and portals. If researchers do not have access to these databases, they will never be up to date with the most recent literature and, consequently it will negatively impact their work.

What may seem as a research gap might be a huge misconception simply because the researcher did not have access to a larger range of scientific literature. And in the case of a thesis, the literature review will miss a great deal of studies that would have helped explain the topic.

So I hope your university has access to a great deal of journals and that this is not a factor for you.

**Age of data.**

If your study is based on secondary data, pay extra care to the age of the data. Making assumptions about a data set long after it has been collected may represent a strong limitation. After all, perceptions and behaviors, for example, are very fluid and change rapidly.

The same can also happen to primary data, which was collected, but only published a long time afterwards. So keep in mind the age of the data you are using.
And Where Should Research Limitations Be Included in the Thesis?

There is no specific format to this and it may vary from supervisor to supervisor, and sometimes universities have their own guidelines. But USUALLY, the limitations are the PENULTIMATE section of your thesis, and they appear before the MANAGERIAL RECOMMENDATIONS.

Why?

Because as mentioned above, the limitations may be due to any section of your work. For example:

- Access to literature (Literature review chapter)
- Method and data collection process (Methodology chapter)
- Equipment: Statistical software (Results chapter)

For this reason, it doesn't really make much sense to have it in any other section of your work, but the very end. However, I know a few supervisors, who ask students to explain the limitations in the Introduction. But for the reasons I explained above, I would not recommend it.

Including it at the end of the thesis seems much more logical to me.

Now go ahead and be honest with the limitations of your work! Reviewers will be positively impressed!
My friend, "I may be wrong", but "everybody hurts". While developing my research projects, I have also made "my mistakes", and I am "so sorry" if you made them as well and now you are thinking: "why does my heart feel so bad"?

(In case you did not understand why I have highlighted those terms in orange, they are the songs on the playlist for this chapter. Check them out on the bottom of this page. Pretty clever, right?)

Don't worry! Always remember: Every study has limitations and addressing them will only strengthen your work. It will only show that you have a holistic idea of what you have developed.

So, again, do not worry. Write this section and move on to the next section, ok? And hey, you are now getting so close to finishing your thesis. Almost there. Just hang on, keep on breathing and smiling and you will be done in no time!

Wooohhhooo!

And now... Rock on to the next stage!
How to write the managerial recommendations.
Imagine the following scene:

You go to a doctor because you have a weird pain somewhere in your body where you believe there is an organ (let us assume your knowledge of human anatomy isn't great). After arriving at the hospital, you describe your condition to the doctor.

You are not sure if the pain was caused because you have been eating too many slices of four cheese pizza (my favorite flavor) or simply because you have been drinking 5 cappuccinos per day for the last 5,913 consecutive days (which I probably have).

The doctor asks you to follow the nurse and go through a few check-up tests: MRIs, x-rays, blood tests, 5km sprints, gardening techniques, singing “Bohemian Rhapsody” a cappella and more. Once all check-ups are over, the doctor examines all results and tells you:

“Son, I think you have a rare form of claustrophobic pancreas. This is affecting the inner pride of your lungs and making your expansive heart feel both lonely and susceptible to storms of tears”.

After describing quite poetically your condition, the doctor simply leaves the room and goes away.

Would you say this was a good doctor?

Absolutely not!

Why? Well, apart from having bizarre methods of investigation and post-modern terms to describe one’s condition, the doctor HAS NOT TOLD YOU WHAT TO DO BASED ON THE RESULTS OF YOUR CHECK-UP!

EXACTLY! The development and interpretation of results from a patients’ diagnosis represents only 50% of a doctors’ job. The other 50% represents ACCURATELY SAYING WHAT THE PATIENT MUST DO BASED ON RESULTS to heal the negative condition.
The managerial recommendations section in your thesis is exactly that. It is the moment you "tell the patient" what to do!

But does it represent 50% of the work in your thesis? NO, NO, NO!!! Usually it represents the LAST section of your thesis, before listing your references and it is a fairly brief section.

Nevertheless, it is a very important section. Students should show both creativity and expertise to interpret results and propose applicable solutions to the industry they researched.

Here are some personal recommendations “From me to you” (This has to be a title of a cheesy song) of what you should keep in mind when working on this section.

Here we go!

1 Breathe and Rest Before Starting.

Very often, this is the last section students will work on before finishing their thesis. At this point they are tired, exhausted from working on the same topic and just want to get it done with. Tiredness will come across very easily in your work. How? The reader might clearly identify that

- The section is too short and without depth.
- The wording is not as careful and detailed.
- The ideas are superficial.

And probably why? You were simply "too tired and out of breath".

So, if you think by this stage you are out of breath, I suggest the following:

Take a day off and watch Netflix to unwind (Have you seen “Narcos” or “Black Mirror”? They are great!). Next day, make yourself a nice drink, put some nice music on (Don’t even get me started on suggesting music...) and when you feel rested... start writing some amazing managerial recommendations!
Develop recommendations only based on your findings.

This is perhaps the most common mistake I see from students. To explain this, let us go back to a medical example (Not sure why I am continuing on this topic, but hang in there, there will be a logic to it).

Imagine you go to a doctor and they take an x-ray of your right foot. After the x-ray, they prescribe surgery on your left elbow. Would that make sense? NO! They examined your right foot, so why would they suggest surgery on your elbow without examining it?

EXACTLY! Only propose managerial recommendations based on the results of your study, and what YOU HAVE DISCUSSED PREVIOUSLY!

Feasibility: Implementation, financial and non-financial return.

Pay extra attention to this point. It is very important.

The recommendations that you are suggesting can be extraordinary, but you have to question yourself: Would it be possible for an organization to implement them and would they bring sufficient return to justify the investment? If the answer is NO, please reconsider including them (At least for now or provide a good explanation as to why you will keep them).

Thus, you must also consider the trade-off between investment and return!

How would you do it?

A) Consider first the INVESTMENTS needed.

- Consider the time needed to implement;
- Consider the financial investment to implement (How much it would cost);
- Consider the non-financial investment to implement (e.g. Human resources, time, efforts).
B) Consider the expected return to the business.

- Consider the **financial return** from implementation (e.g. Revenue generated)
- Consider the **non-financial return** from the investment (e.g. Brand image)

After contrasting investment versus return, the question is: Is your recommendation feasible or not? Be prepared to defend your idea!

**Example:** Once a student developed a managerial recommendation that included developing a complex autonomous system to track consumer behavior in physical stores. However, the focus was on small businesses. The student's idea was very interesting, but would it be feasible for small businesses to invest in such complex systems and would it bring enough financial return to justify the investment?

*Probably not... Do you get the point now?*

### 4 Implementation process.

Very often students have great ideas for recommendations, but actually little knowledge as to how they would be implemented. If you were a consultant for a company, would you suggest a solution if you did not know how it could be implemented? No, right? So do not suggest it here, ok? Also consider if it can even be implemented at all! For example:

- Are there technologies available to implement it?
- Is there enough time to implement your solution?
- Are there any limitations (e.g. governmental, societal, legal) to implement your solution?

If so, do not include the solution because it simply will not happen.

**Remember:** If an interesting solution cannot solve a problem because it cannot be implemented, it is not a solution.

Do you need to describe in your thesis how it would be implemented? Discuss this with your supervisors, because it will depend. Many times, at this stage students are already struggling with page numbers and word count. Personally, I usually do not ask the students to include this, but often we discuss it in their presentations.

**Finally, also remember:** Implementation of a managerial recommendation you have suggested in your thesis can easily be a question from your supervisors during your colloquium.
5 Originality.

Sometimes due to the lack of time and patience from the students, the managerial recommendations suggested by them are the first ideas that come to mind. Surprise, surprise - these are often ideas that have already been implemented or that are common practices in the industry!

What does it mean when this happens? You are informing the panel of reviewers two main things:

- You have little knowledge of your industry; and/or
- You did not bother to research to identify if your idea is original or not.

Do managerial recommendations need to be incredibly creative and original? No, very few things in this world actually are. However, please do not repeat common practices claiming they are your own original ideas.

Can you suggest solutions that have been used in different markets, industries or time in history to apply to your context? ABSOLUTELY! Many interesting solutions come from the observation of other industries, different contexts and even from simply observing nature!

6 Relevance of the problem it will solve.

When you are developing managerial recommendations, consider the relevance of the problem you are trying to address. Just because something is an issue to a company does not mean that all issues have the same importance. For example, can we compare:

- A poor website usability that is giving users poor online experience and limiting the conversions from “lookers” into “bookers” on your site; with,
- The desire to update the company logo.

Not at all! Poor usability destroys conversion, reduces revenue generated online and can limit sales massively. Thus, it is crucial for any online business and must always be a top priority. On the other hand, updating a company logo is also important. However, not as important as the consequences of having a more old fashioned logo (although a negative thing), might have lower impact for an online business.

Thus, consider the importance of the problems you are trying to solve with your managerial recommendations and focus on the most important ones. If you are only focusing on superficial problems, consider working on the section again!
Fantastic stuff, my friend. If you have completed your managerial recommendations you have reached an extremely important milestone:

You have concluded all relevant sections!

This means that not only have you developed wonderful managerial recommendations, which might open the doors for your consulting career, but you now only have the presentation of your thesis left.

You are extremely close to experiencing life after thesis. But before you do, let me tell you all you need to know in order to have a great thesis presentation.

So.... Rock on to the next stage!

Full soundtrack the Managerial recommendations

1. Let's do it (Ella Fitzgerald)
2. Follow me home (Dire Straits)
3. Money (Pink Floyd)
4. No advice (Chet Faker)
5. This is how we do it (Montell Jordan)
How to prepare for the thesis presentation.
My friend, if you are reading this chapter it can only mean one thing: You are finishing or have finished your thesis and soon will have your colloquium! (Also called “viva” or “oral defense”).

CONGRATULATIONS!

WE ARE ALL SO PROUD OF YOU!

But I can also imagine that many things are going through your mind.

- Will I present it well?
- Will they destroy my thesis or like my work?

Please do not be nervous or anxious. These are absolutely normal questions and insecurities that all, literally all, students have. I have certainly been there and know how frightening it can feel.

But hey, I am here to help you. I’ve developed some recommendations for you to have a successful colloquium.

Are you ready?

AFTER SUBMITTING YOUR THESIS (BEFORE THE COLLOQUIUM)

1. Read the entire thesis and take notes.

Often students finish their thesis and do not know what was written in the first chapters. This is normal, since it is a long process and by now you are tired of it. But if you do not read it, you may easily forget basic things that can be asked during your presentation. And this would be pretty embarrassing. Thus, make sure to read the thesis and take notes on important sections!
2 Have a killer presentation.

It depends on each university, but most likely you will have around 15 minutes to present your thesis during your colloquium. **So keep in mind:** it is your last chance to impress the reviewers! Thus, make sure to:

- **Only discuss the main points of each chapter of the thesis.** Reviewers have already read it, so there is no need to remind them of every detail. Just focus on what is really important!

- **Address any negative issues in the thesis.** In case the thesis had any flaws, major limitations or any other issue, it is always good for you to address it before the reviewers do. This way you can have a head-start and the reviewers will notice that you were aware of these flaws.

- **Have visually appealing slides.** Do you like classes where the lecturer has slides only with text, inconsistent font sizes and fonts? We don't either. Show that you took time to work on it and develop nice slides!

- **Print the slides and give them to the panel.** Maybe they will not even use them but regardless, it will indicate to them that you thought of every detail.

- **Keep track of time.** Rehearse many times at home until you are confident you will not go over the time limit. Also, keep a watch in sight, and never go over the time.

- **Have a professional mindset.** Dressing up nicely and being careful with your choice of words will send a nice message.

3 How to answer questions.

Most likely reviewers will ask three types of questions:

**A) QUESTIONS YOU MUST KNOW THE ANSWER TO.**

These are questions related to your topic and are for you to show evidence of how much you know your topic (and that you actually wrote the thesis!). They might involve your theoretical background, choice of methods, results and so on. In questions like these, knock them out of the park! Have fun and show how smart you are!
B) QUESTIONS YOU MIGHT KNOW THE ANSWER TO.

These are questions to test your overall knowledge. They might not be exactly related to your topic, but if you think deeply, you could give a reasonable answer.

In such situations, you may say “I am not 100% sure, but I believe that...” and you can develop a thought connecting concepts based on previous studies.

C) QUESTIONS YOU DO NOT KNOW THE ANSWER TO.

These are questions to test your honesty! In such cases, simply say: “I do not know”. Honesty in science (just like in life) is extremely important. If the reviewers get the feeling you are making things up, they might assume the same for your entire thesis.

There is no problem at all in saying “I do not know” if the question does not relate to your study or you simply do not know the answer to it. So in these cases, do not try to answer something you have no clue about. It will only hurt your evaluation.

4 Be humble.

Put yourself in the place of the reviewer: You have a PhD and have been studying the topic for years and here comes a student with an attitude pretending s/he knows absolutely everything. How would you feel?

Exactly! Be humble and have a friendly attitude. In science we are permanently learning and no one knows it all. So please don’t pretend you do. The entire fun in science and education comes from the fact that we do not know it all, but we wish to always know more.

So, show your curiosity for the topic as well, that you would like to keep on going and know even more, as you know that you do not know it all. Got it?
Imagine the scene: The room is ready and the reviewers are sitting in front of you, but the laptop does not open the file on your hard-drive or USB stick. PANIC!

You would not believe how often this happens. And the consequence is that the student loses time, feels even more stressed and may give a horrible presentation.

The easy solution is to simply have your file available in multiple sources. Example: USB stick, on your email and on a cloud account (Dropbox or iCloud). Better be safe then sorry, right?

Finally, also bring your own laptop with you, just in case you need it.

ENJOY THE MOMENT!

The colloquium is usually the final task you have at the university. It represents the end of a long journey. So enjoy it, have a smile on your face and let the reviewers notice how happy you are to be discussing with them a topic that you chose and have a passion for!

You have worked so hard on your thesis, so many ups and downs. What is the point if you do not enjoy the moment? So smile, and show them what you worked on for so long. Enjoy the moment!
My friend, I hope these suggestions will help you and that you have a wonderful thesis presentation. I truly wish that for you. Also, I cannot express how proud I am of you. You have done the best you could, have faced the challenges and concluded a big piece of work. I hope you are proud of it too.

And remember, no thesis is fully finished. Simply, at some point, we must submit it. So if by now you are having the feeling something is missing or that you should have done some things differently, do not worry. We have all felt that too, ok?

So to inspire you for the presentation of your dissertation, I leave you with a beautiful passage of the lyrics of the classic "The Scientist", from Coldplay, which says:

"Oh, it's such a shame for us to part
Nobody said it was easy
No one ever said it would be so hard
I'm going back to the start".
Welcome to
Life after thesis!

You are done!
I am so proud of you.

It has probably been a long journey, full of ups and downs. An emotional roller-coaster, right? It is now time to return to life, to leave the house, see the sun, call friends and relax. This has been a long, and, hopefully, enjoyable journey for you.

Despite the pressures, I hope you feel like you learned a lot and that you are, somehow, different. I also hope this educational process has changed you. In the end, that is what it is all about.

I have also gotten very stressed during my theses (Bachelor, Masters and PhD) and know exactly how it feels. But you know something really strange?

After sometime, I always missed it. Because learning is fun, it changes us for the better and helps us see the world in a different way. So my wish for you is: **do not stop here.**

Regardless of where you are, keep on going. I hope that, after some well deserved rest, your curiosity will be more alive than ever.

So from the bottom of my heart, wherever you are in this world, if you are reading this, I would like to tell you one thing: **Congratulations and I wish you a wonderful life after thesis!**

Oh, and if this e-book helped you somehow, I would love to hear from you. Let’s connect on LinkedIn or any social media from LivelInnovation.org. Or simply write me.

I hope to somehow have helped you.

Cheers,

**Francisco.**
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