Doing in-company research projects

a step by step approach

Arjan de Bont

uitgeverij coutinho

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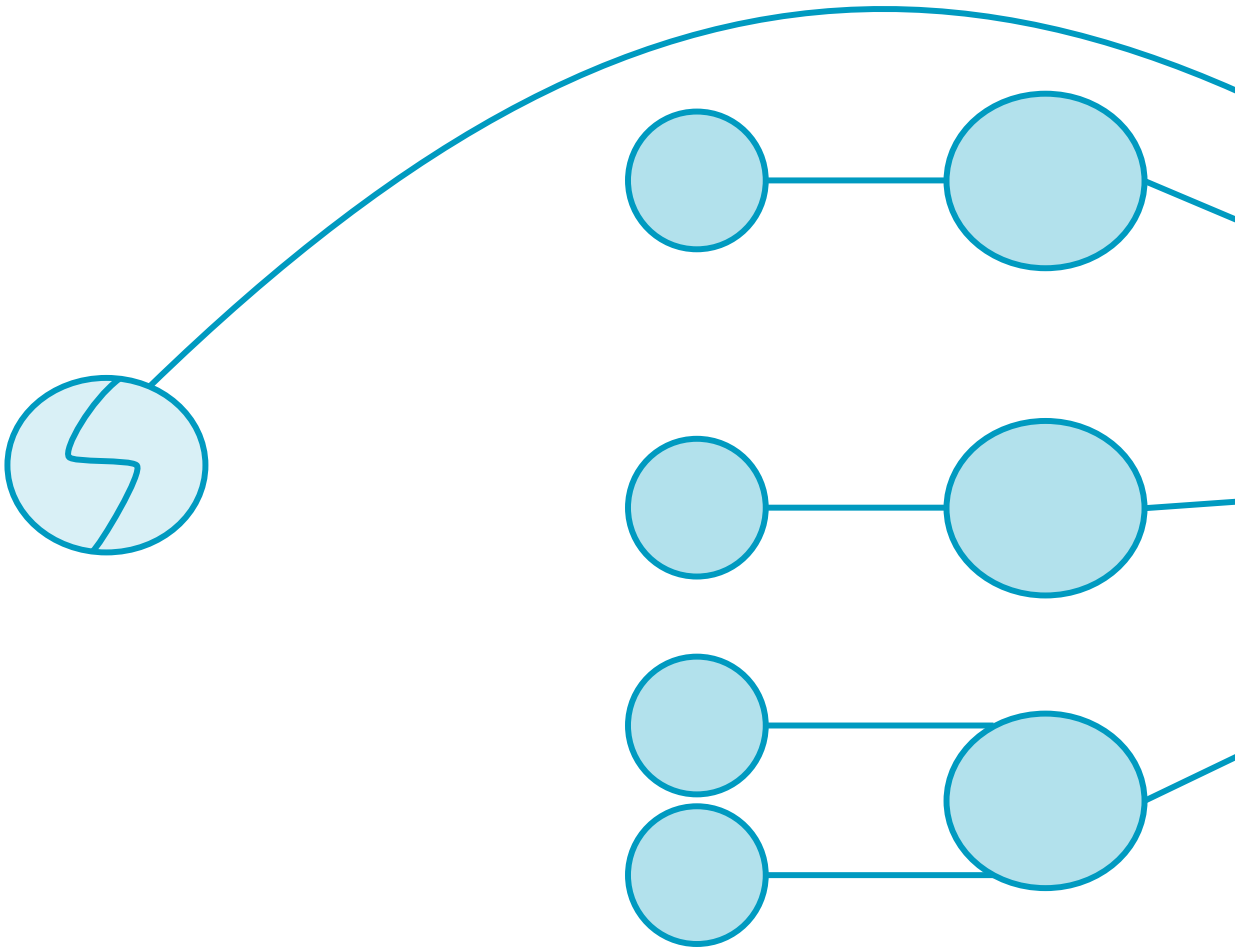

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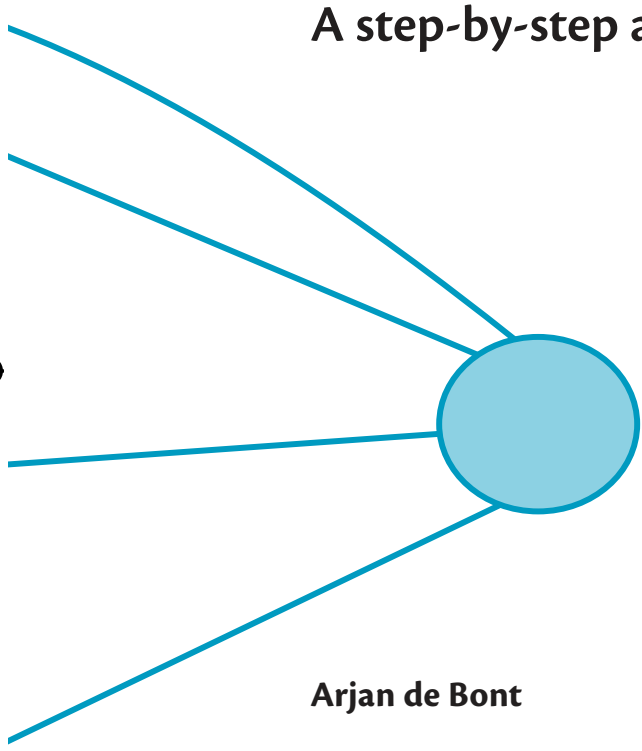
A step-by-step approach



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Preface

Many business schools include compulsory in-company research projects as part of their curricula. Such projects provide an excellent opportunity for students to solve a real problem for a real corporate client. Typically, these projects require research activities, that converge into a well-founded, practically relevant advice for management. Thus, research is done as a prerequisite for proper management decision-making.

In-company research projects require that students take a number of steps. These steps include defining the business problem, specifying the project aim, specifying research questions, and identifying when and how to use scientific publications. Unfortunately, students are not always taught which steps to take and how to do so. Without such preparatory research skills training, students are left guessing what to expect when embarking on their first in-company research projects. Softly put, such a situation is undesirable.

This book helps business students do in-company research. No rocket science, but a straightforward step-by-step approach.

This book is written in the first person plural since it can be regarded as the product of a group rather than a single author. Composing the book involved the close cooperation and support of over a dozen people, including research experts, work placement supervisors, business professionals, students, and alumni. A special word of thanks goes to Maria Helen Arce Salazar, Paul Scholey, Anja Schäfer, Jos Carboex, Marjolein van Nieuwkasteele, René van Dal, Wolfgang Renno, André Diedrichs, Maike Behrend, Floriana Böckermann, Markus Schmidtmann, Kathrin Kaulen, Alina Vosdellen, Storm Gorman, and Kristina Janda.

Finally, an affectionate word of thanks to my wife and children. To my wife Karin, for believing in this book and for supporting me during the entire process of writing. And to my children, Daan, Anneke, Niels and Janneke, for kindly waking me in the early hours on my Saturdays and Sundays – hours during which I worked on this book, accompanied by the sweet background sounds of Dora the Explorer.

Enjoy your reading!

Arjan de Bont

Website

This book is accompanied by a website with additional teaching and learning materials, which can be accessed via **www.coutinho.nl/companyresearch**.

These materials consist of:

- a link to a prezi of the step-by-step approach;
- a number of best practices (exemplary research reports) by business students;
- helpful hints for work placement which requires doing an in-company research project;
- a feedback form via which users can submit suggestions and additions, which will be considered for the next edition.

Teachers can also request an assessment form that can help them grade their students' projects.

Table of contents

Introduction

The aim of this book is to equip you with a step-by-step approach to doing an in-company research project. This approach focuses on the management advice that you want to formulate by the end of your research project. The advice solves the practically oriented problem given to you by your client. You start out by attempting to describe the core elements of the solution at an early stage. Next, you zoom in on the parts of the solution you consider as yet unanswerable. After mapping out information gaps necessary to find the solution, you formulate research questions that need to be answered to fill in these information gaps. Research questions are then answered by means of systematic collection and analysis of data, a process that is supported by scientific methods and models. The results of these activities enable you to fill in the information gaps. As a result, a solution to the practically oriented problem can be formulated as advice addressed to the client.

In short, this is what the book offers:

- It is embedded within the professional field. The approach is applicable in your daily professional practice.
- It supports solving practical problems by means of research and stimulates a systematic approach to practical problems.
- It is built upon long experience generated from supervising practical research projects.

Though if you are looking for information on how to do research for non-profit organisations, how to write reports, plan projects or find statistics and technical aspects of research, we refer you to the many great textbooks out there that offer information on those specific topics.

The book is structured as follows. First, we will give you a concise overview of the step-by-step approach necessary to design and execute an applied in-company research project. We do so by providing you with a visual illustration of the approach. Second, we will explain each step in detail. We will do so by adding information and providing short examples. We will sometimes highlight special issues that deserve your attention, such as definitions or common pitfalls. More information about this step-by-step approach is available on the website about the book.

Apart from information and short examples, we will use a case example of an applied research project that runs throughout the book and illustrates the connections between the different steps. The case example involves a short

research project executed by a second-year business student. The research project was aimed at practicing the use of the step-by-step approach, within the common constraints of time and page allowance to reporting. This project was found to be of a relatively high quality in the light of our criteria. The case will allow us to explain how a trained assessor would typically evaluate the project. We will be commenting on the case to point out strong and weak aspects. In some cases, we will provide alternative courses of action.

The book serves as a guideline while working on your research project. Its concise nature allows you to easily find relevant parts during your project.

To the student

This book makes a number of assumptions. These are as follows.

- You are a student in higher education. You are therefore part of an educational environment that includes supervisors and assessors. Your project assignment requires the thinking typically required in higher education.
- You are a business student. Hence, we assume you are familiar with globally used models such as Porter's Five Forces or the Boston Consultancy Group Matrix without further explanation.
- You are primarily being educated to become a *business manager* (studies in business economics, marketing, international business or logistics management, for instance). Consequently, we look at research activities needed for *decision-making* in the context of business management.
- Your project aims to advise your client on management decisions that will influence the company's future operations. This implies that your research activities are a *means* to an end, rather than an end in themselves. Thus, your research activities aim at solving a 'practical question' (Turabian 2013, 9).

You are about to initiate a project that has an *in-company* character. Thus, a research project is done *for* a company, while you are working there. This implies you have a *client* (the specific person requesting your advice) and a *company supervisor* who supports you during the project. Of course, they could be one and the same person.

To the teacher/supervisor

You are teaching one of the most challenging subjects in higher education because true research can be very demanding. Unless pressed to do so, our lazy brains will tend to avoid the hassle. Consequently, students may not truly appreciate the value of research skills until they are directly confronted with situations in which these skills are urgently required. These situations usually present themselves during a work placement or graduation assignment.

The research approach presented in this book has been modeled after best practices we have seen over the years in our work placements and in-company graduation assignments. These best practices cover a wide range of business fields including marketing, finance, organization, operations management and human resources. Examples of client companies that were passed in review are Siemens, Philips, ThyssenKrupp, Bosch, Lufthansa, Adidas, Hugo Boss and BMW.

The way in which the different steps are explained in this book is based on years of teaching, experimenting and reflecting on what makes students effectively learn the skills involved in doing an in-company research project. To make the book suited for various learning styles, we have worked on assuring the following:

- the step-by-step approach is presented visually as well as textually;
- an overview of the research approach detailing each step is supplied;
- a case simulating a real-life research project is presented;
- assessor's feedback on the case is given.

Further materials for teaching and learning are provided on the website about the book.

There are two ways to use this book. First, you can have your students use the book as a guideline while working on work placement projects. Second, you can have your students prepare themselves for their work placements by doing a small in-company research project. This project would ideally be aimed at solving a real problem for a real company. If this proves to be difficult, then the alternative is to have your students work on an imaginary problem for a real company.

Both ways to use this book require the following:

- the project aims at solving a company problem, as opposed to e.g. a thesis paper;
- the project has a project nature, which means it is based upon an envisioned goal;
- the project demands – or prepares for – the analytical level required in higher education.

As a minimum requirement, your students will need to be familiar with the basics of business management, project-based working, and statistical data analysis. For this reason, the approach is best taught to students in their second, third or fourth semester.

Last but not least, this book touches upon research methodology. It explains at what stage of the research project methodology becomes applicable, what it entails and what purpose it serves. However, the book does not go into the specifics of methodology, such as surveying, sampling, designing research instruments or data processing. For this, references will be made to other sources.

We too learn as we go. Therefore, your experiences in using the book will be of great value to us. Your comments will be considered for the next edition. The website includes a feedback form for this purpose.

The approach at a glance

This is an outline of the step-by-step approach we will be using throughout the book. Afterwards we will examine and explain each step more extensively.

Step 1 Define the problem

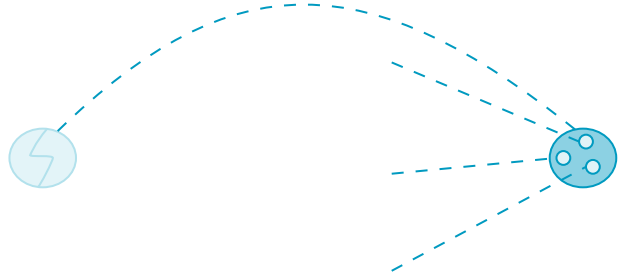
Define the reason for your project. What is the gap between the current and the desired situation? Ask your client about what the consequences would be if this research project would not be executed. What would the company miss out on? How would the company be affected in terms of profit? In the further course of this book, the problem will be visualized as follows:

Step 2 Specify your project aim

Needless to say, you have to provide a solution to the problem, but what type of solution? What aspects will be included? What scope will it have? In other words, specify the end point of your project. The type of recommendations you will make. The output your client will expect. This will be your deliverable.

Step 3 Determine the information gaps

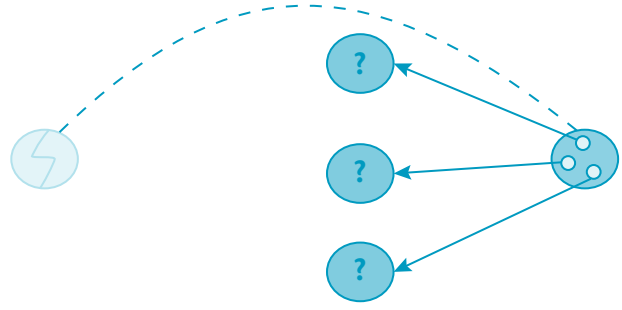
Various types of projects exist. A distinctive element of your project is that it requires research to reach its aim. Ask yourself: 'What information gaps keep me from presenting advice to my client at this very moment?' Your answer to this question exposes the areas where you will need to do research first.



problem | preliminary investigation | **main research** | recommendation

Step 4 Specify your research questions

Research questions are necessary for establishing the direction of your research. They indicate precisely what will be examined – and consequently what will not be examined.



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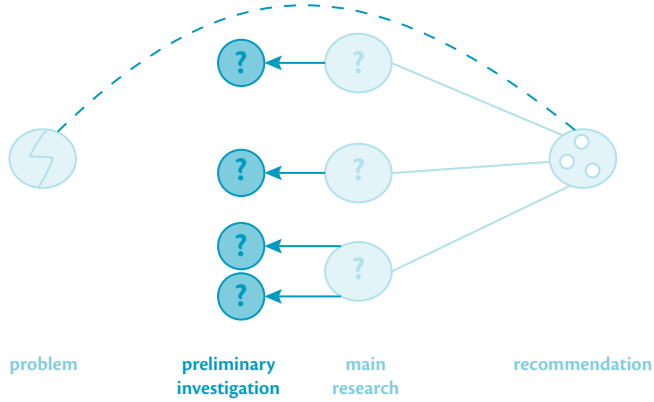
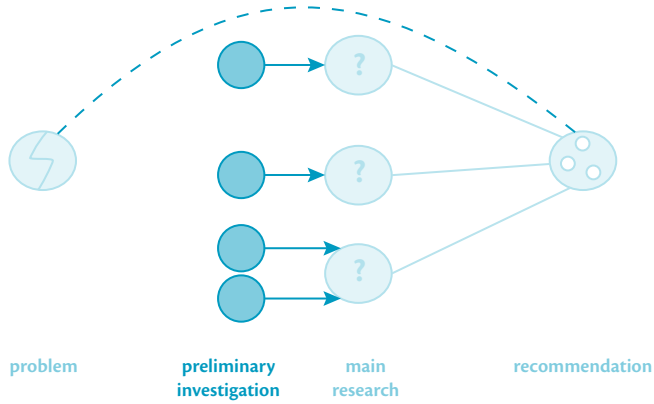
Step 5 Assess which aspects need preliminary investigation

Screen each research question for anything that may need investigation before starting your main research. Doing so sets the groundwork for your further research activities.



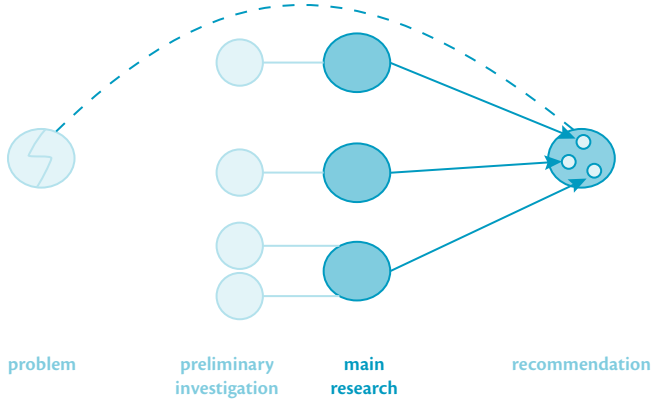
Step 6 Execute the preliminary investigation

Your preliminary investigation sets the stage for further research activities in your project. We will focus on the activity of exploring theory. This involves systematically searching for and reviewing models and methods that may help you to execute your research project.



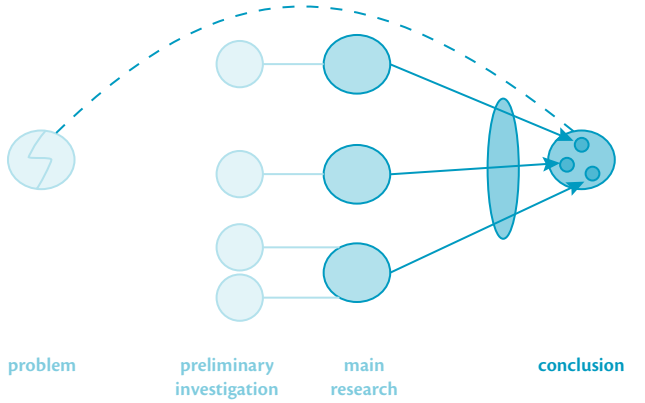
Step 7 Execute the main research

Conduct your main research in accordance with the structure of your research questions. In this way, your research activities will be transparent to a reader or assessor.



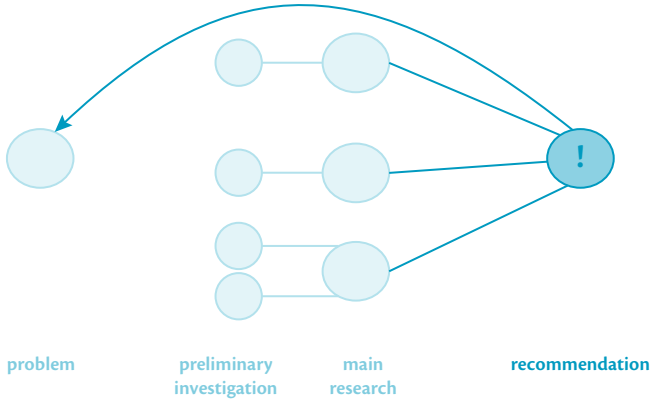
Step 8 Conclude

You have filled the 'information gaps' that existed at the beginning of the project. Now bring your answers together to prepare for the development of a solution.



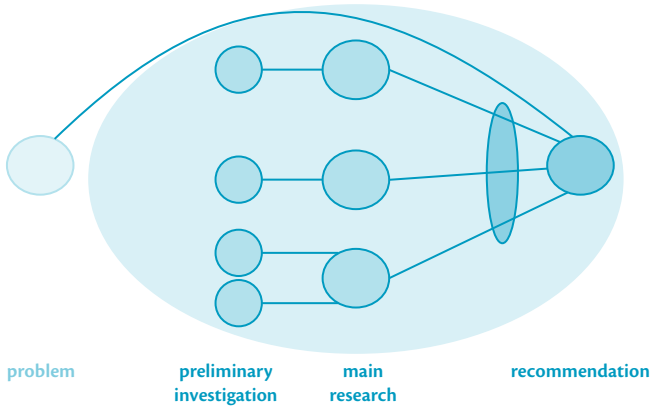
Step 9 Recommend

This involves suggesting a particular decision or course of action. Suggested actions should contribute to solving the business problem at the core of your research project. These actions may be strategic or operational. Or both.



Step 10 Critically appraise the research project

To 'critically appraise' means to examine the project carefully with the purpose of assessing its quality and determining its value for the client. This entails screening the research and recommending activities for possible limitations.



These ten steps have proven to be useful for the design and execution of most in-company research projects. They assume a straightforward, project-based structuring of research activities. A more dynamic presentation of the step-by-step approach is found at www.prezi.com/user/arjandebont. In this book, a more concise overview of this step-by-step approach is presented in Appendix 2. We will now provide a more detailed explanation per step.

Step 1
Define the problem

In this part you will learn:
- how to identify the business problem;
- how to show the size of that problem;
- to distinguish between causes, problems and symptoms;
- to formulate a problem question.

problem preliminary investigation main research recommendation

We assume that you have been hired by a company to do a short business research project. You have learnt what your client wants you to do, and you are ready to start up your research project. Now first answer the question: why are you here? Put differently: what is currently so uncomfortable or painful for the company that they have made efforts to search, select and pay someone to execute this research project? If this research project would not be executed, what would be the consequences for the company? What would it miss out on? In other words, first take a step back before you start running forward. The client will most probably not have a clear-cut problem definition for you at hand. It will not be presented to you on a silver platter. Instead, you will often need to 'dig it up'.

At this point, you are simply exploring the problem together with your client, as a consultant would. This does not yet include research into what precisely causes the problem. If needed, such research may be done at a later stage in the project.

1

1.1 Causes, problems, symptoms

To define a problem effectively, you need to distinguish between problems, causes and symptoms. Consider a company that finds itself in the red. Being in the red is a *symptom*, rather than a problem. It signals a lack of financial health, perhaps due to unprofitable business operations. Whatever the problem may be, it cannot simply be solved by 'brushing up' the numbers. (Ever heard of Enron?)

In any case, there is considerable confusion about causes, problems and symptoms. How do you distinguish between the three?

In general, causes lead to problems, which in turn generate symptoms. Define the problem by positioning it clearly between its causes and its symptoms. Start by mapping out the different aspects at play and their connections. What leads to what? Then consider which of the aspects is the true problem at the core of your project.

Consider the following example of how causes, problems and symptoms relate. Suppose you are suffering from a cavity in one of your teeth. It appears you have forgotten to brush your teeth frequently enough. What is the problem?

- Is it the substance human teeth are made of? If this is the problem, your solution should involve changing the substance. Since we can't change this, it should not be labelled as the problem.
- Is it the pain? This implies that if you take away the pain (for example, using aspirin), the problem would be solved. This said, most would agree that the problem goes beyond pain.
- Is it the lack of brushing? Suppose now that infrequent brushing did not lead to cavity formation. Would you still label this as a problem? Why?
- Is it the cavity? So if you had it filled professionally, would the problem be solved?

As most would agree, the cavity is the immediate problem. As an instant solution, it could be resolved by having the cavity filled professionally. As a structural solution, increasing the frequency of brushing could solve the problem.

Now for a business example, consider a hotel where the rooms are not fully booked during a major annual event in the city. The *cause* may be a drop in the number of visitors of the event, which is largely beyond the hotel's control. The *cause* could also be a lack of timely promotional efforts by its marketing department, which is much more within its control. Whichever the cause, the *problem* is the income they are missing in the weekend the event takes place. Now say the hotel's failure to be fully booked is made visible by the relatively small number of guests in the restaurant and bar, or perhaps by the number of unused room keys behind the entrance desk. These are both *symptoms*; they are signals that the hotel is missing out on an opportunity to create profit.