Research Methodology

Module organization

Module

- 5 sessions of 3 hours (last session is 2 hours)

Evaluation

- Final evaluation: Power point presentation

Outline of the course

1. Objectives of the course
2. Asking research questions
3. Finding answers: looking for and engaging sources
4. Finding answers: qualitative and quantitative research
5. Writing

Asking research questions

Outline of session 1

1. Objectives of the course
2. Dissertation at EM Normandie
3. What is research?
4. Writing research
5. Asking questions

What is research?

What is research ?

Whenever we read about a scientific breakthrough, we benefit from the research of those who report it, who in turn benefited from the research of countless others.

Researchers are everywhere

- Teachers (lecturers, …, professors) devote their lives to research.
- Governments spend billions on research, businesses even more.

Research is the world's biggest industry

Research goes on in laboratories and libraries, in ocean depths, in outer space, …, in offices and even in our own homes.

What is research ?

Academic research is the source of most of what we believe

Example

- We believe that Venus is hot, dry, and mountainous, because that's what we've read.
- We trust that research because we think it was done carefully and reported accurately.

Academic research is reported by others in writing

What is research ?

We do research whenever we gather information to answer a question that solves a problem

Examples

- **problem:** Where do I find a new brake for my bike?
- **research:** Look in google maps for a Decathlon store, then check if it has one in stock.

- **problem:** To settle a bet, I need to know when Roger Federer was born.
- **research:** You Google “Roger Federer birthday.”

- **problem:** I’m just curious about a new species of bird.
- **research:** You search the Internet for articles in newspapers and academic journals.

What is research ?

Research is a conversation

- We rely on those who wrote up their research: Federer's biographers, the bird discoverers, google maps
- They all wrote up their research because they knew that one day someone would have a question that they could answer.

- For now, the conversation is one-sided: you have to listen more than you can speak
- At some point, you will join a conversation that, at its best, can help you and your community free us from ignorance.
- Maybe one day, your research can improve the life of many people

Writing up

Why write it up?

If you accept the invitation to join the conversation, you'll have to:

1) find a good question,
2) search for sound data,
3) formulate and support a good answer,
4) **write it all up.**

Why write it up?

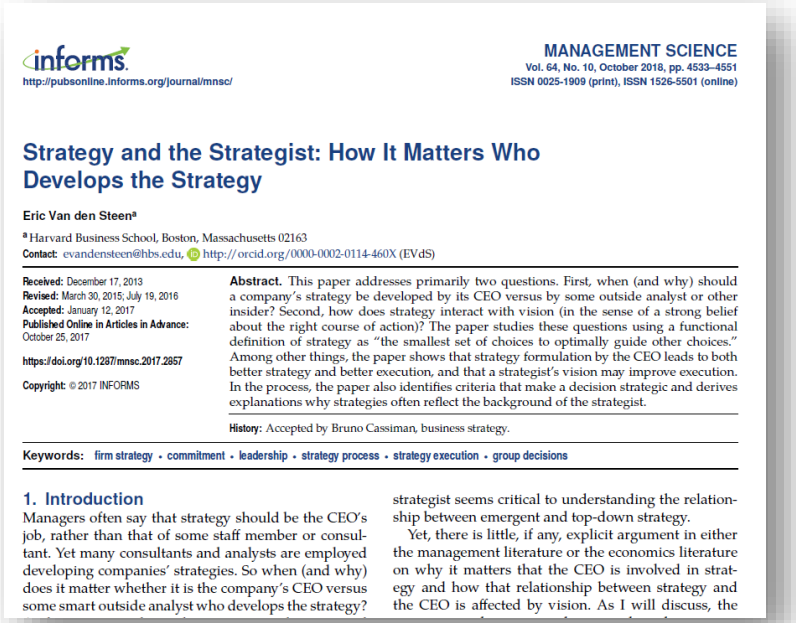
- **Write to remember:** When you don’t take notes on what you read, you’re likely to forget or, worse, misremember it.

- **Write to understand:** When you arrange and rearrange the results of your research in new ways, you discover new implications, connections, and complications.

- **Write to test your thinking:** You can’t know how good your ideas are until you separate them from the flow of thought and fix them in an organized form that you—and your readers—can study.

Why a formal report?

- When you write for others, you demand more of yourself than when you write for yourself alone.
- You will understand your own work better when you try to anticipate your readers' inevitable and critical questions: How have you evaluated your evidence? Why do you think it's relevant? What ideas have you considered but rejected?



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Strategy and the Strategist: How It Matters Who Develops the Strategy

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Abstract. This paper addresses primarily two questions. First, when (and why) should a company's strategy be developed by its CEO versus by some outside analyst or other insider? Second, how does strategy interact with vision (in the sense of a strong belief about the right course of action)? The paper studies these questions using a functional definition of strategy as "the smallest set of choices to optimally guide other choices." Among other things, the paper shows that strategy formulation by the CEO leads to both better strategy and better execution, and that a strategist's vision may improve execution. In the process, the paper also identifies criteria that make a decision strategic and derives explanations why strategies often reflect the background of the strategist.

History: Accepted by Bruno Cassiman, business strategy.

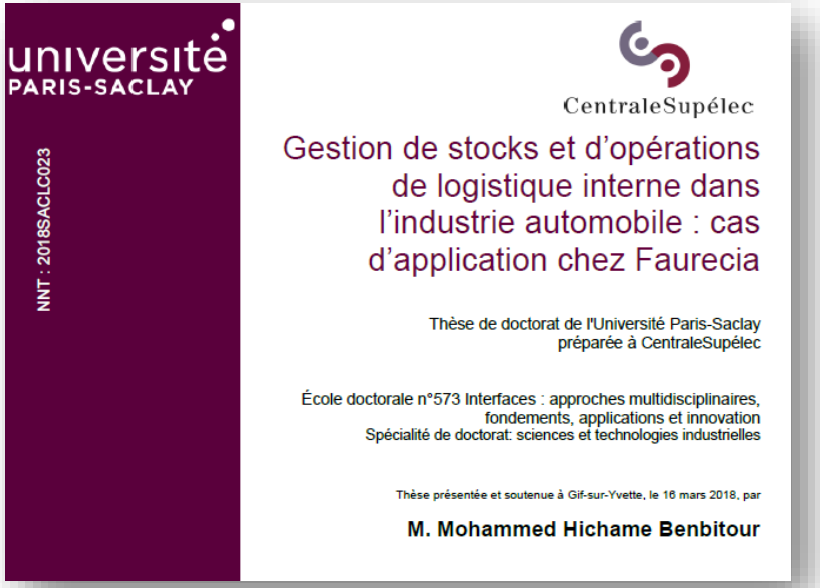
Keywords: firm strategy • commitment • leadership • strategy process • strategy execution • group decisions

1. Introduction

Managers often say that strategy should be the CEO's job, rather than that of some staff member or consultant. Yet many consultants and analysts are employed developing companies' strategies. So when (and why) does it matter whether it is the company's CEO versus some smart outside analyst who develops the strategy? strategist seems critical to understanding the relationship between emergent and top-down strategy.

Yet, there is little, if any, explicit argument in either the management literature or the economics literature on why it matters that the CEO is involved in strategy and how that relationship between strategy and the CEO is affected by vision. As I will discuss, the

Journal paper



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CentraleSupélec

Gestion de stocks et d'opérations de logistique interne dans l'industrie automobile : cas d'application chez Faurecia

Thèse de doctorat de l'Université Paris-Saclay
préparée à CentraleSupélec

École doctorale n°573 Interfaces : approches multidisciplinaires, fondements, applications et innovation
Spécialité de doctorat: sciences et technologies industrielles

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M. Mohammed Hichame Benbitour

PhD dissertation

Writing is thinking

- Writing a research report is thinking with and for your readers.
- When you write for others, you separate your ideas from your memories and wishes, so that you—and others—can explore, expand, combine, and understand them more fully.
- **Thinking for others is more careful, more insightful and more thoughtful.**

Connecting with Your Reader

- When we read a research report, we silently converse with its writer—and through her with everyone else she has read.

Your role as a researcher

- When you do research, you learn something that others don't know.
- When you report it, you must think of your reader as someone who doesn't know it but needs to and yourself as someone who will give her reason to want to know it.

There are three reasons for offering research results: the third is most common in academic research

- **I've Found Some New and Interesting Information**
- **I've Found a Solution to an Important Practical Problem**
- **I've Found an Answer to an Important Question**

Asking questions

- From Topics to Questions to a Problem

Planning your research project (1/4)

The first task is to find a research problem that might be worth solving. Here are four steps to that end:

1. **Find a topic specific enough to let you master a reasonable amount of information on it in the time you have:**

What is a good topic?

For example, not the strategy of startups, but the marketing strategy of tech startups in the silicon valley (2000–2010).

Planning your research project (2/4)

2. Question that topic until you find questions that catch your interest.

For example, How did silicon valley startups managed to create demand for their products and services?

3. Determine the kind of evidence your readers will expect you to offer in support of your answer.

Will they accept reports of facts from secondary sources, or will they expect you to consult primary sources? Will they expect quantitative data, or quotations from authorities?

Planning your research project (3/4)

4. Determine whether you can find those data.

- There’s no point starting research on a topic until you know you have a good chance of finding data on it.
- Once you think you have enough data to support at least a plausible answer to your question, you’ll be ready to assemble an argument that makes your case, then to plan, draft, and revise it.

Planning your research project (4/4)

Important tip: do lots of writing

Write to understand:

- make outlines;
- explain why you disagree with a source;
- draw diagrams to connect disparate facts;
- summarize sources, positions, and schools;
- record even random thoughts.

- It would be useful to keep a journal for new ideas, random thoughts, problems, and so on.
- Writing every day helps encourage best critical thinking, understand your sources better, and, when the time comes, draft more productively.

Asking good research questions

From Topics to Questions

- If you are free to research any topic that interests you, that freedom might seem frustrating—so many choices, so little time.

- **You can’t jump from picking a topic to collecting data**: **your readers want more than a mound of random facts**.

- You’ll find that better reason when you can ask a question whose answer solves a problem that you can convince readers to care about.

From Topics to Questions

- In all research communities, some questions are “in the air,” widely debated and researched.

- But other questions may intrigue only the researcher: Why does a coffee spill dry up in the shape of a ring?
- That’s how a lot of research begins—not with a big question that attracts everyone in a field, but with a mental itch about a small one that only a single researcher wants to scratch.

You must decide whether the answer to your question solves a problem significant to other researchers, or even to a public whose lives your research could change.

Question or Problem?

Some questions raise problems; others do not.

- A question raises a problem **if not answering it keeps us from knowing something more important than its answer.**
- **Example:** if we cannot answer the question Are there ultimate particles? we cannot know something even more important: the nature of physical existence.

- A question does not raise a problem **if not answering it has no apparent consequences.**
- **Example:** Was Victor Hugo's right thumb longer than his nose?

From an interest to a topic

Most of us have more than enough interests, but beginners often find it hard to locate among theirs a topic focused enough to support a substantial research project.

A research topic is an interest stated specifically enough for you to imagine becoming a local expert on it.

From an interest to a topic

I. Finding a Topic in a General Writing Course

- List as many interests as you can that you'd like to explore.
- Let your ideas flow. Ask friends, classmates, even your teacher about topics that interest them.

Once you have a list of topics, choose the one or two that interest you most.

Then do this:

- Google your topic, but don't surf indiscriminately. Look first for Web sites that are roughly like sources you would find in a library, such as online encyclopedias.
- You can also find ideas in blogs, which discuss almost every contentious issue, usually ones too big for a research paper.

From an interest to a topic

II. Finding a Topic for a First Research Project in a Particular Field

Start by listing topics relevant to your particular class and that interest you, then narrow them to one or two promising ones. If the topic is general, such as "**sustainability**", you'll have to do some random reading to narrow it. But read with a plan:

- Skim encyclopedia entries in your library or online.
- Skim headings in specialized indexes. Use subheadings for ideas of how others have narrowed your topic.
- Use Google Scholar, a search engine that focuses on scholarly journals and books.

From an interest to a topic

III. Finding a Topic for an Advanced Project

Most advanced students already have interests in topics relevant to their field. If you don't, focus on what interests you, but remember that you must eventually show why it should also interest others.

- Find what interests other researchers. Look online for recurring issues and debates in the archives of professional discussion lists relevant to your interests.
- Search online and in journals for conference announcements, conference programs, calls for papers, anything that reflects what others find interesting.
- Skim the most recent articles in your library's online database.

From a broad topic to a focused one

Risk: settling on a topic so broad that it could be a subheading in a library catalog: spaceflight; Shakespeare's problem plays; natural law.

A topic is probably too broad if you can state it in four or five words:

- Sustainability in supply chains
- Strategy of technology startups

A topic so broad can intimidate you with the task of finding, much less reading, even a fraction of the sources available. So narrow it:

From a broad topic to a focused one

- Sustainability in supply chains ➔ **Implementing** sustainable transportation in agri-food supply chains
- Strategy of technology startups ➔ The **contribution** of the operations strategy in **increasing** the profitability of technology startups

- We narrowed those topics by adding words and phrases, but of a special kind: implementing, contribution, and increasing.
- Those nouns are derived from verbs expressing actions or relationships: to implement, to contribute, and to increase.
- Lacking such “action” words, your topic is a static thing.

From a focused topic to questions

Once they have a focused topic, many new researchers make a beginner's mistake: they immediately start looking through all the sources they can find on a topic, taking notes on everything they read.

If a writer asks no specific question worth asking, he can offer no specific answer worth supporting. And without an answer to support, he cannot select from all the data he could find on a topic just those relevant to his answer.

From a focused topic to questions

The best way to begin working on your specific topic is not to find all the data you can on your general topic, but to formulate questions that point you to just those data that you need to answer them.

Start with the standard journalistic questions: **who, what, when, and where, but focus on how and why.**

From a focused topic to questions

- **Ask about the History of Your Topic**
  - What is its own internal history? How and why has the topic itself changed through time?
- **Ask about Its Structure and Composition**
  - How does your topic fit into the context of a larger structure or function as part of a larger system?
  - How do its parts fit together as a system?
- **Ask How Your Topic Is Categorized**
  - How does your topic compare to and contrast with others like it?
- **Turn Positive Questions into Negative Ones**
- **Ask What If? and Other Speculative Questions**
  - How would things be different if your topic never existed, disappeared, or were put into a new context?

From a focused topic to questions

- **Ask Questions Suggested by Your Sources**

  You won’t be able to do this until you’ve done some reading on your topic.

  - If a source makes a claim you think is persuasive, ask questions that might extend its reach.
  - Ask questions that might support the same claim with new evidence.
  - Ask questions analogous to those that sources have asked about similar topics.
  - If you are an experienced researcher, look for questions that other researchers ask but don’t answer.

From a focused topic to questions

Evaluate Your Questions

Look for questions whose answers might make you (and, ideally, your readers) think about your topic in a new way.

Avoid questions like these:

- Their answers are settled fact that you could just look up. Do tech startups CEO's wear suits? Questions that ask how and why invite deeper thinking than who, what, when, or where, and deeper thinking leads to more interesting answers.
- Their answers are dead ends. How many water cups did Steve Jobs drink in his office? It's a question that's probably not worth asking.

From a question to its significance

Is your question significant ?

Once you have a question that holds your interest, you must pose a tougher one about it: **So what?**

- Beyond your own interest in its answer, why would others think it a question worth asking?
- What will be lost if you don’t answer your question?
- How will not answering it keep us from understanding something else better than we do?

- Answering **So what?** vexes all researchers, beginners and experienced alike, because when you have only a question, it’s hard to predict whether others will think its answer is significant.

From a question to its significance

Three useful steps to ask significant questions

Once you have a question that holds your interest, you must pose a tougher one about it: **So what?**

1. Topic: I am studying ---------

2. Question: because I want to find out what / why / how -------,

3. Significance: in order to help my reader understand ----------.

From questions to a problem

At that point, you have posed a problem that they recognize needs a solution

Finding the significance of a problem is hard, even for experienced researchers

To understand how to find that question and its significance, though, you first have to know what research problems look like.

Practical and research problems

Practical Problems: What Should We Do?

It’s a familiar task that typically looks like this:

- practical problem: My brakes are screeching.
- research problem: Can I find a brake shop in the yellow pages to fix them?
- research solution: Here it is. Speedy, Paris.
- practical solution: Drive over to get them fixed.

Practical and research problems

Academic Research Problems: What Should We Think?

In academic research, a conceptual problem arises when we simply do not understand something about the world as well as we would like. We solve a conceptual problem not by doing something to change the world but by answering a question that helps us understand it better.

Conclusions

- Academic research is the source of most of what we believe
- Research is a conversation communicated to other by the means of writing
- From an interest to a broad topic, to a focused one, to questions, to their significance
- Three-step formula

  1. **Topic:** I am studying ---------
  2. **Question:** because I want to find out what / why / how -------,
  3. **Significance:** in order to help my reader understand ----------.

- Practical and research problems

References

- Booth, W. C., Colomb, G. G., Williams, J. M., Bizup, J., Fitzegerald, W. T. (2016). The craft of research. University of Chicago press.