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CASE STUDY AS A RESEARCH METHOD

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Outline

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- 1. Case study typologies**
- 2. Potential paradigmatic frameworks**
- 3. Building theory from case study research**

Introduction

- ❖ According to Yin (2014, p. 16), a case study is an **empirical inquiry** that
 - ❖ investigates a **contemporary phenomenon (the case)** in depth and within its **real-life context**, especially when
 - ❖ the **boundaries** between phenomenon and context **are not clearly evident**.

Introduction

- According to Yin (2014, p.10), the case study method is particularly appropriate when the research question starts with: “**How?**” or “**Why?**”.

- A research question starting with “**What?**” is also accurate, especially for a relativist/subjective approach.

- The case study method is particularly interesting when the studied phenomenon is:
 - ❖ not clearly or not sufficiently theorized,
 - ❖ complex (several actors, assignments, procedures, goals, etc.).

1- Case study typologies

The main types of case study can be identified on the following basis:

1. **Research design (Yin/COSMOS Corp., 1984),**
2. **Research purpose.**

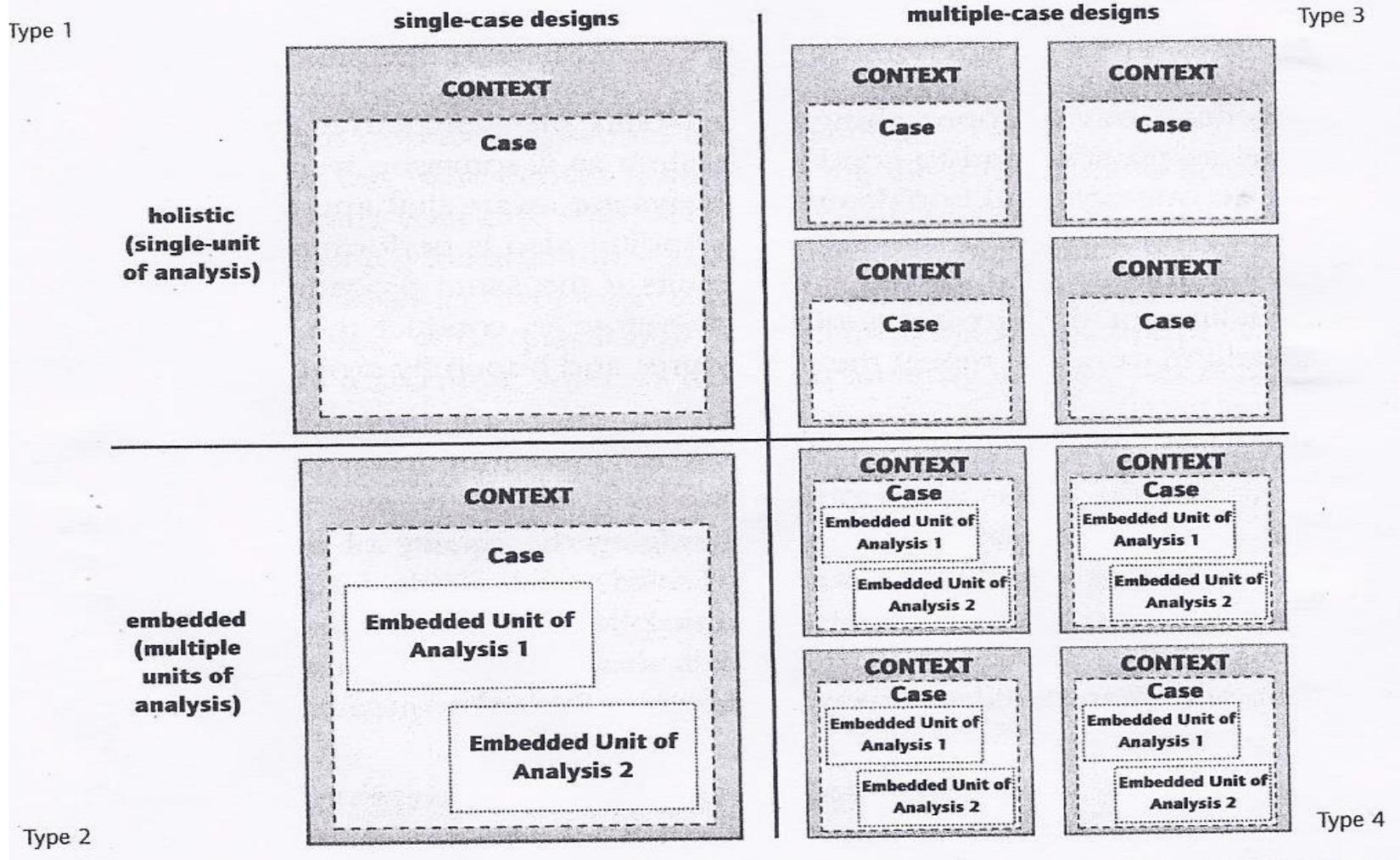
1- Case study typologies

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1. **Research design (Yin/COSMOS Corp., 1984):**
 - ❖ **embedded** (multiple units) analysis,
 - ❖ **holistic** (single-unit) analysis,
 - ❖ **single case** design,
 - ❖ **multiple case** design.
- Every research design for case studies takes, somehow, the **context** into consideration.

1- Case study typologies

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1- Case study typologies

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➔ Holistic case study

□ This analysis is based on the **systemic approach** of a phenomenon/entity.

□ It is useful when:

- ❖ **no sub-unit** can be identified,
- ❖ when the **theory** underlying the case is itself **of a holistic nature**.

➔ Embedded case study

□ This analysis focuses on different **sub-units** of a specific phenomenon/entity.

□ It is useful to:

- ❖ put into perspective the holistic illusion,
- ❖ confront **rival interpretations**,
- ❖ strengthen **internal validity**.

1- Case study typologies

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➤ Single case design

□ According to Yin (2014), this design is appropriate when the case:

- ❖ is critical **to test a specific theory** with a clear set of propositions;
- ❖ represents an **extreme or unusual case**;
- ❖ is **representative of a situation**;
- ❖ **reveals a situation**;
- ❖ is **longitudinal**.

➤ Multiple case design

□ This design is particularly relevant for:

- ❖ **testing the conclusions** (replication),
- ❖ avoiding **extraneous variation**,
- ❖ **providing a larger picture** of a complex phenomenon (Stake, 2006),
- ❖ **comparing different studies** (between industries, countries, etc.).

1- Case study typologies

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2. Research purpose:

- ❖ **Exploratory case study**
- ❖ **Explanatory (or causal) case study**
- ❖ **Descriptive case study**
- ❖ **Confirmatory case study**

1- Case study typologies

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► Exploratory case study

- ✓ The focus is usually a **single case or a limited number of cases (up to 10)**.
- ✓ The purpose is to better understand an emerging phenomenon and/or to propose **new theoretical insights** to generate new ideas and hypotheses .
- ✓ The interest is particularly strong **when existing theories are incomplete or unable** to provide a satisfactory representation of the studied phenomenon.

► Explanatory case study

- ✓ That is the **most important purpose**.
- ✓ The goal is to explain a situation, mostly in the form of a **causal relationship** (too complex for the survey or experimental strategies).
- ✓ The **isolation of factors** may be a problem.

1- Case study typologies

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► Descriptive case study

- ✓ The goal is **to portray precisely a phenomenon**.
- ✓ The approach is used when the generality of the phenomenon is of secondary importance.

► Confirmatory case study

- ✓ The purpose is **to evaluate** the robustness or the weakness of **a clearly defined theory** (or theoretical conjecture).
- ✓ A **conflicting case** might be used **to falsify a theory** by giving examples of events contradicting some theoretical statements.
- ✓ The falsified theory, in a specific context, must then be modified.

2- Paradigmatic framework

- ❑ The concept of **paradigm** refers to a specific scientific research framework.
- ❑ According to Morin (1977, p. 44), a paradigm is:
*A set of **fundamental relationships** of association and/or opposition **between a limited number of central ideas**, relationships which will order/control all thoughts, all speeches, all theories.*

2- Paradigmatic framework

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	THREE TYPES OF INFERENCES
DEDUCTION	<ol style="list-style-type: none">1. General laws and theories.2. Conceptualizations (hypotheses, models, etc.).3. Explanations and predictions.
INDUCTION	<ol style="list-style-type: none">1. Facts based on observation.2. Conceptualizations (hypotheses, models, etc.).3. General laws and theories.
ABDUCTION	<ol style="list-style-type: none">1. Facts based on observation.2. Conceptualizations (hypotheses).3. Explanations and predictions.

Source: adapted from Chalmers (1987).

2- Paradigmatic framework

- ❑ There is an emerging consensus to formally present a **paradigmatic framework**.
- ❑ Three dimensions could structure such a framework (Kuhn, 1962 ; Guba, 1990 ; Guba et Lincoln, 1994 ; Mbengue, 2001, etc.).
 - ✓ **Epistemological project.**
 - ✓ **Ontological perspective.**
 - ✓ **Methodological protocol.**

2- Epistemological projects

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Piaget (1970) distinguishes three types of epistemological projects.

- **The idiographic project (observation of unique facts or events before theorization):**
 - ❖ **historiography** (to study a phenomenon's history),
 - ❖ **ethnography** (to study a phenomenon's context).

- **The praxeological project (analysis of decisions and actions):**
 - ❖ To identify and delineate norms, rules and obligations impacting decision-making and implementation).

- **The nomothetic project (theorization before explanation):**
 - ❖ To identify and analyze the laws that can be more or less generalized to other situations (causal determinism).

2- Positivist ontology

Positivism holds that conceptions of truth (scientific reasoning) **are absolute or universal** (principle of objectivity).

The schools of thought are varied.

1- Original positivism (Comte, 1844)

- The purpose is to find a demarcation between sciences and non-sciences (humanities).
- The main statement is: the only authentic knowledge is that which allows **verification**.
- Based on empirical observations, causal explanations, etc.

2- Neopositivism or Logical positivism (Vienna Circle: Schlick, 1918 and 1925; Waismann, 1930, etc.)

- The central tenet is the belief in the unity of science (concept of *unified science*).
- Comte's **verification principle** is still maintained.

2- Positivist ontology

3- Post-neopositivism (some members of the Vienna Circle in the 1930's)

- The verification principle is abandoned.
- It's replaced by the **refutation/falsification principle** (Popper, 1934) or **confirmation/testability principle** (Carnap, 1936).

The positivist ontology is **often used for case studies** (*Inductive theory-building* and *Natural experiment* methods [Welch *et al.*, 2011]).

The **drawbacks** are the following: difficult generalization from case studies, weak emphasis on contextualization, the principle of scientific objectivity is questionable, etc.

2- Relativist ontology

- **Relativism** (Bachelard, 1938; Toulmin, 1953; Kuhn, 1962, Piaget, 1967, etc.) holds that **conceptions of truth** (scientific reasoning) **are not absolute or universal** but are **relative to the context and/or to the researcher's personality** (principle of subjectivity).
- The schools of thought are varied. The two main approaches are the **constructivist and interpretative (or interpretativist)** epistemologies.

2- Constructivist ontology

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Five basic and recurrent principles (Le Moigne, 1990).

- **1- Principle of reality representativeness**

- ❖ Lack of objectivity from the observer (culturalism).

- **2- Principle of a constructed universe**

- ❖ The studied reality is not independent from the observer (intentions, result expectations, etc.).

- **3- Principle of projectivity**

- ❖ Interaction between subject and object (the research process is not defined by the object, but by the project of the researcher).

2- Constructivist ontology

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- **4- Principle of general arguments**
 - ❖ Several scientific reasoning are possible (inferences, heuristics, etc.).
- **5- Principle of action based on specific reasoning**
 - ❖ The reasoning is crucial to discover, in different ways, a complex reality and to identify the potential actions to deal with this reality.

The constructivist ontology is **interesting for case studies** (*Interpretive sensemaking and contextualized explanation methods [Welch et al., 2011]*).

The **drawbacks** are the following: case(s) serving the scientific project of the researcher, difficult generalization, problem to explain the process of *construction*, etc.

2- Interpretive ontology

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- ❑ The main difference with the constructivist epistemology is the fact that the researcher tries **to understand the studied reality from inside**.
- ❑ The interpretive approach is characterized by:
 - ❖ the researcher's **immersion** and **empathy**;
 - ❖ the **focus on meanings** that actors give to the studied phenomenon;
 - ❖ the acknowledgement of actors' intentions, motivations and understanding.
- ❑ This approach is particularly interesting for **single case designs** (*Interpretive sensemaking and contextualized explanation* methods [Welch et al., 2011]).
- ❑ The **drawbacks** are the following: lack of detachment and objectivity, difficult generalization, problem to explain why one interpretation is better than another, etc.

2- Critical realist ontology

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- ❑ **Critical realism** (Bhaskar, 1975) is an emerging epistemological ontology.
- ❑ **According to** Easton (2010, p. 123): *Critical realists [...] **construe** rather than they **construct** the world.*
- ❑ The **main tenets** are the following:
 - ❖ Reality could be **known/understood or constructed**.
 - ❖ Meaning is not only externally descriptive.
 - ❖ **Causal relationships** (explanations) can be combined **with contextualization** (understanding).

2- Critical realist ontology

- ❑ The main difference with the interpretive epistemology is the fact that **causal relationships** can be used to describe the world (some interpretivists reject the possibility of discerning causality).
- ❑ The critical realist ontology is becoming an **interesting epistemology for single or multiple case study designs** (*contextualized explanation* method [Welch *et al.*, 2011]).
- ❑ The **drawbacks** are the following: social scientists are still debating how to apply this philosophy, the distinction between what is known and what is interpreted is difficult to identify, dealing simultaneously with contextualization and causal claims is complex, etc.

2- Ontology: a comparative grid (1)

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CHARACTERISTICS	POSITIVISM	RELATIVISM	CRITICAL REALISM
Researcher's positioning	Distant, outside.	Close, inside.	Distant and/or close.
Research contextualization	Weak.	Strong.	Strong.
Research principle	Objectivity.	Subjectivity.	Objectivity and subjectivity.

2- Ontology: a comparative grid (2)

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CHARACTERISTICS	POSITIVISM	RELATIVISM	CRITICAL REALISM
Research objective(s)	To identify, verify or test a law, a rule, a generality, etc.	To understand a reality on the basis of perceptions, representations, meanings, etc.	To explain laws/rules/generalities and to understand perceptions/representations/meanings.
Research question (example)	How can we measure marketing synergies in a co-branding agreement? Case of...	How can we consider , in a co-branding agreement, the perceived image transfer between partners? Case of...	How can we measure marketing synergies, based on the perceived image transfer between partners, in a co-branding agreement between partners? Case of...

2- Methodological protocol

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SHARED METHODS - DIFFERENT METHODOLOGIES

METHODS	METHODOLOGIES	
	QUANTITATIVE RESEARCH	QUALITATIVE RESEARCH
Observation	As an Introduction	Essential
Interviews	Fully structured	Unstructured or semi-structured
Recording	Rarely used To verify	Analysis of <i>way of saying</i>
Textual analysis	Frequency of occurrence of recording units	Understanding of used categories

Source: Hlady-Rispal (2002).

3- Building theory from case study research

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- Welch, Piekkari, Plakoyiannaki and Paavilainen-Mäntymäki (2011) present the **recurrent dilemma**, in Social Sciences, **between:**
 - ❖ Research based on **causal claim (explanation)**
 - **Causal explanation** = *claims about the **capacities** of objects and being **to make a difference to their world** (p. 741);*
 - ❖ Research based on **context-sensitive knowledge (understanding)**
 - **Context** = ***contingent conditions that, in combination with a causal mechanism, produce an outcome** (p. 741).*

3- Building theory from case study research

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Methods of theorizing from case studies

EXPLANATION	WEAK EMPHASIS ON CAUSAL EXPLANATION	STRONG EMPHASIS ON CAUSAL EXPLANATION
UNDERSTANDING		
WEAK EMPHASIS ON CONTEXTUALIZATION	1/ Inductive theory-building (N = 96) (Eisenhardt, 1989)	2/ Natural experiment (N = 27) (Yin, 1984)
STRONG EMPHASIS ON CONTEXTUALIZATION	3/ Interpretive sensemaking (N = 52) (Stake, 1995)	4/ Contextualized explanation (N = 24) (Ragin, 2000)

Source: Welch et al. (2011, p. 750).

3- Building theory from case study research

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Examples of research questions.

□ 1/ Inductive theory-building

- ❖ Why cultural differences have an impact on joint ventures survival in the pharmaceutical industry?

□ 2/ Natural experiment

- ❖ How the creation of pluricultural teams improves the joint ventures survival in the pharmaceutical industry?

□ 3/ Interpretive sensemaking

- ❖ For project leaders, what are the meanings of the deployment of Franco-Japanese core processes within the Renault-Nissan alliance?

□ 4/ Contextualized explanation

- ❖ How the creation of Franco-Japanese core processes allows transfers of know-how within the Renault-Nissan alliance?

3- Building theory from case study research

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Links with Yin/COSMOS's typology (1984)

EXPLANATION	WEAK EMPHASIS ON CAUSAL EXPLANATION	STRONG EMPHASIS ON CAUSAL EXPLANATION
UNDERSTANDING		
WEAK EMPHASIS ON CONTEXTUALIZATION	1/ Inductive theory-building Multiple cases (4 to 10 [Eisenhardt])	2/ Natural experiment Single or multiple cases
STRONG EMPHASIS ON CONTEXTUALIZATION	3/ Interpretive sensemaking Single or multiple cases (4 to 10 for a "quintain" [Stake])	4/ Contextualized explanation Single case or very few cases

3- Building theory from case study research

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Links with case study research purposes

EXPLANATION	WEAK EMPHASIS ON CAUSAL EXPLANATION	STRONG EMPHASIS ON CAUSAL EXPLANATION
UNDERSTANDING		
WEAK EMPHASIS ON CONTEXTUALIZATION	1/ Inductive theory-building Exploratory Confirmatory	2/ Natural experiment Explanatory Confirmatory
STRONG EMPHASIS ON CONTEXTUALIZATION	3/ Interpretive sensemaking Exploratory Descriptive	4/ Contextualized explanation Explanatory Descriptive

3- Building theory from case study research

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Links with types of inferences

EXPLANATION	WEAK EMPHASIS ON CAUSAL EXPLANATION	STRONG EMPHASIS ON CAUSAL EXPLANATION
UNDERSTANDING		
WEAK EMPHASIS ON CONTEXTUALIZATION	1/ Inductive theory-building Induction (or abduction)	2/ Natural experiment Deduction
STRONG EMPHASIS ON CONTEXTUALIZATION	3/ Interpretive sensemaking Induction (deduction or abduction)	4/ Contextualized explanation Induction, deduction or abduction

3- Building theory from case study research

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Links with epistemological projects (Piaget, 1970)

EXPLANATION	WEAK EMPHASIS ON CAUSAL EXPLANATION	STRONG EMPHASIS ON CAUSAL EXPLANATION
UNDERSTANDING		
WEAK EMPHASIS ON CONTEXTUALIZATION	1/ Inductive theory-building Nomothetic project	2/ Natural experiment Praxeological project
STRONG EMPHASIS ON CONTEXTUALIZATION	3/ Interpretive sensemaking Idiographic project	4/ Contextualized explanation Praxeological project

6- Building theory from case study research

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Links with epistemological ontologies

EXPLANATION	WEAK EMPHASIS ON CAUSAL EXPLANATION	STRONG EMPHASIS ON CAUSAL EXPLANATION
UNDERSTANDING		
WEAK EMPHASIS ON CONTEXTUALIZATION	1/ Inductive theory-building Positivism or neopositivism	2/ Natural experiment Post-neopositivism
STRONG EMPHASIS ON CONTEXTUALIZATION	3/ Interpretive sensemaking Constructivism or interpretivism	4/ Contextualized explanation Critical realism

3- Building theory from case study research

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Links with methodological protocol

EXPLANATION	WEAK EMPHASIS ON CAUSAL EXPLANATION	STRONG EMPHASIS ON CAUSAL EXPLANATION
UNDERSTANDING		
WEAK EMPHASIS ON CONTEXTUALIZATION	1/ Inductive theory-building Qualitative and/or quantitative data	2/ Natural experiment Qualitative and/or quantitative data
STRONG EMPHASIS ON CONTEXTUALIZATION	3/ Interpretive sensemaking Qualitative data and/or qualitative data	4/ Contextualized explanation Qualitative and/or qualitative data

3- Profile of research based on case studies

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EXPLANATION	WEAK EMPHASIS ON CAUSAL EXPLANATION	STRONG EMPHASIS ON CAUSAL EXPLANATION
UNDERSTANDING		
WEAK EMPHASIS ON CONTEXTUALIZATION	1/ Inductive theory-building <ul style="list-style-type: none"> <input type="checkbox"/> Multiple cases (4 to 10) <input type="checkbox"/> Exploratory and /or confirmatory <input type="checkbox"/> Induction (or abduction) <input type="checkbox"/> Nomothetic project <input type="checkbox"/> Positivism or neopositivism <input type="checkbox"/> Qualitative and/or quantitative 	2/ Natural experiment <ul style="list-style-type: none"> <input type="checkbox"/> Single or multiple cases <input type="checkbox"/> Explanatory and/or confirmatory <input type="checkbox"/> Deduction <input type="checkbox"/> Praxeological project <input type="checkbox"/> Post-neopositivism <input type="checkbox"/> Qualitative and/or quantitative
STRONG EMPHASIS ON CONTEXTUALIZATION	3/ Interpretive sensemaking <ul style="list-style-type: none"> <input type="checkbox"/> Single or multiple cases <input type="checkbox"/> Exploratory and/or descriptive <input type="checkbox"/> Induction (deduction or abduction) <input type="checkbox"/> Idiographic project <input type="checkbox"/> Constructivism or interpretivism <input type="checkbox"/> Qualitative and/or quantitative 	4/ Contextualized explanation <ul style="list-style-type: none"> <input type="checkbox"/> Single case or very few cases <input type="checkbox"/> Explanatory and/or descriptive <input type="checkbox"/> Induction, deduction or abduction <input type="checkbox"/> Praxeological project <input type="checkbox"/> Critical realism <input type="checkbox"/> Qualitative and/or qualitative

Source: Milliot (2014).

Conclusion

Case study as a research method:

- is very popular (especially in qualitative research),
- is respected in the academic world,
- has a large paradigmatic flexibility,
- presents a high theory-testing and theory-building potential,
- Can be based on four main research methods.

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