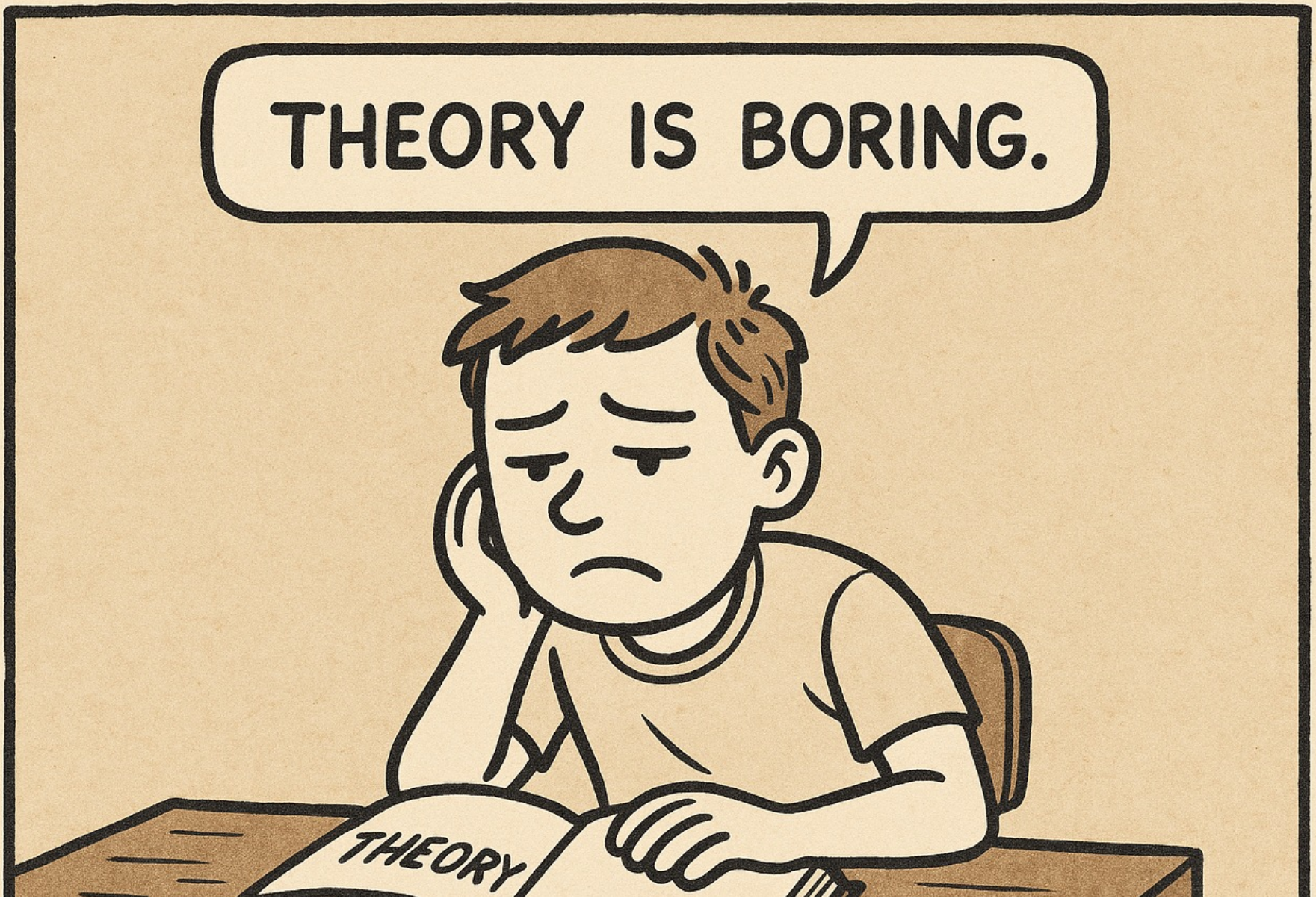
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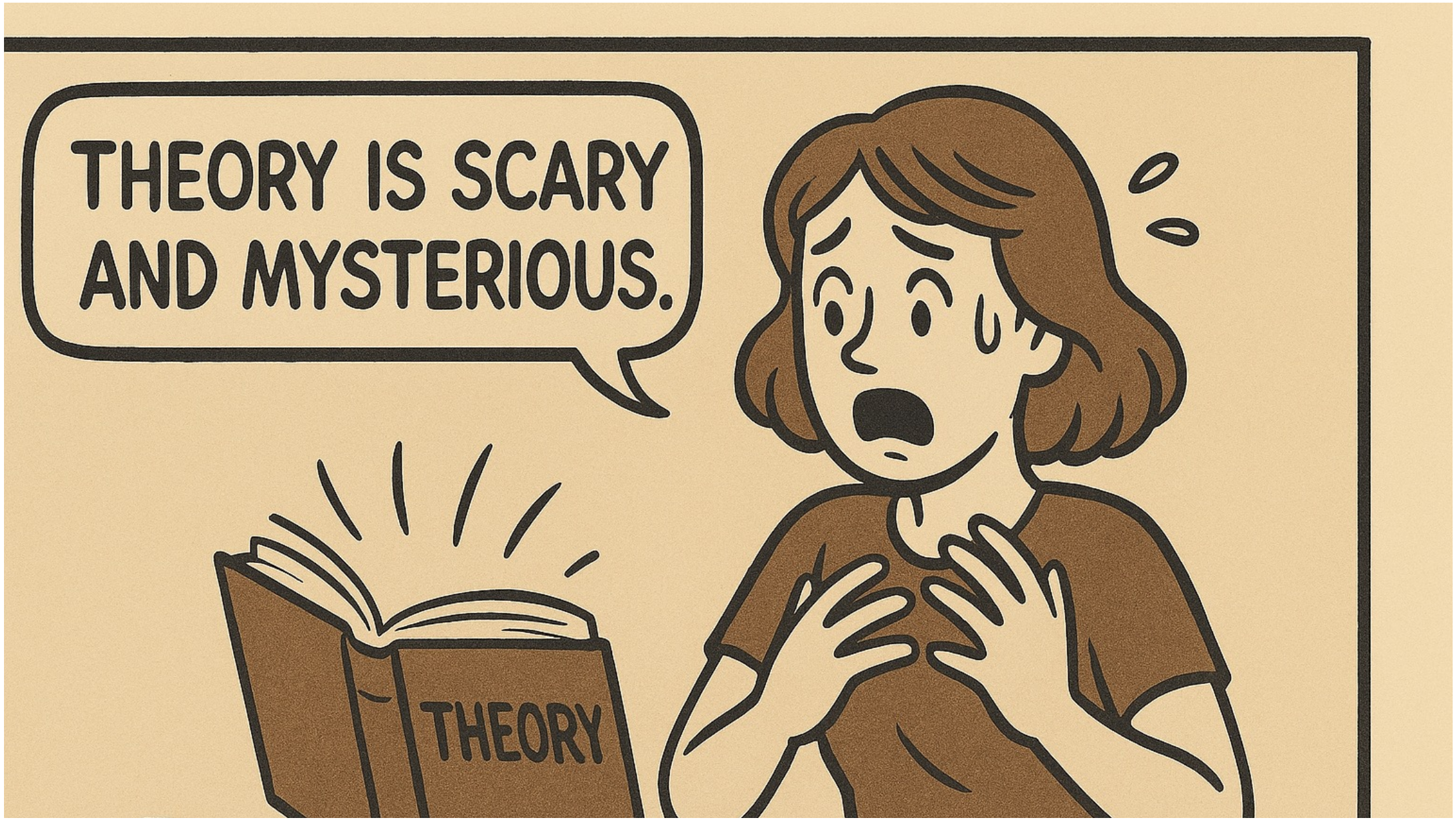
IN5210: Use of Theory in Practice

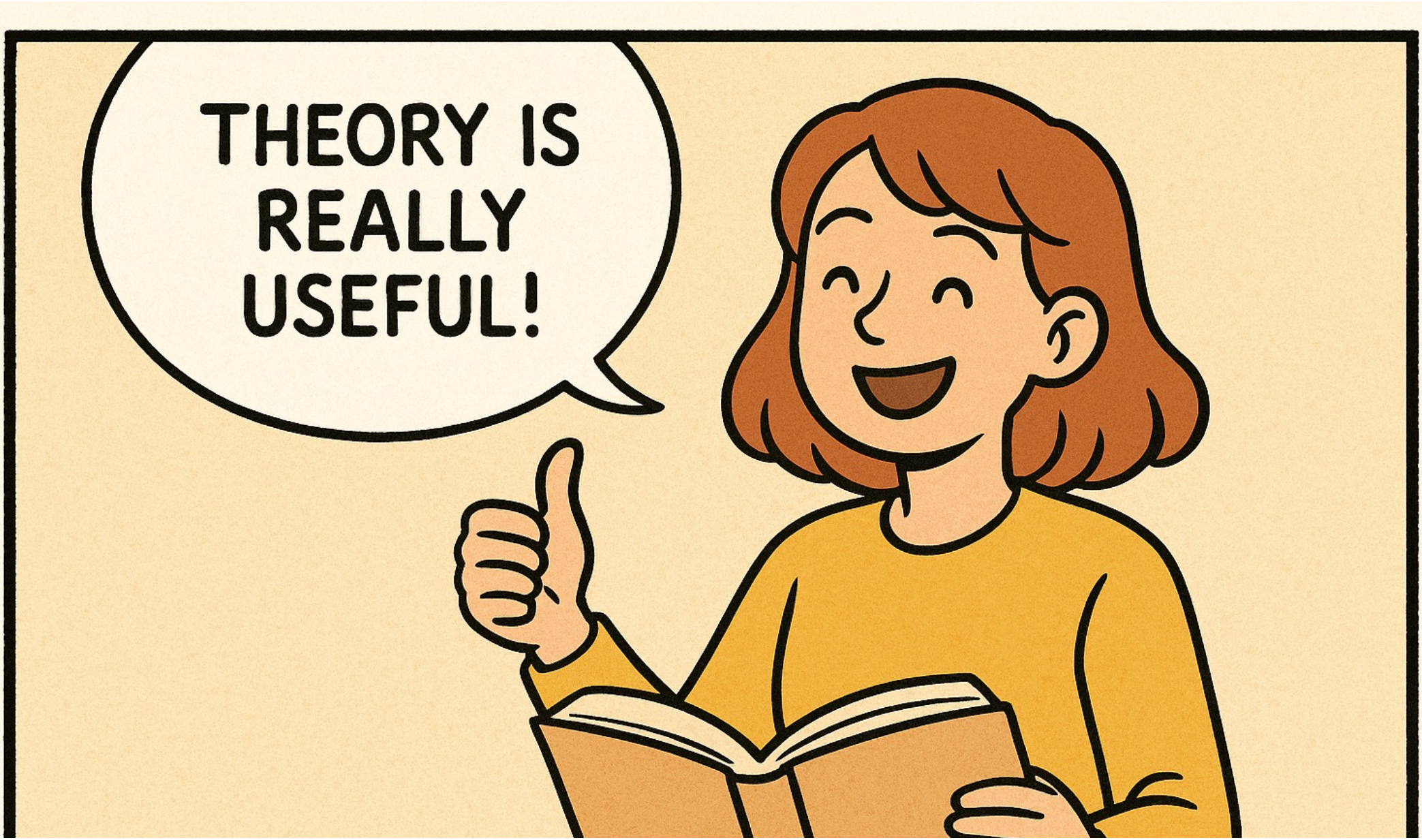
Alexander Kempton, Information Systems Group
Department of Informatics





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THEORY IS SCARY AND MYSTERIOUS.
THEORY


THEORY IS
REALLY
USEFUL!

Agenda

What is theory?

What is theory used for?

How do I use theory in my own master thesis?

How do I find and manage research literature?

Agenda

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What is theory?

- Why does “theory” mean?



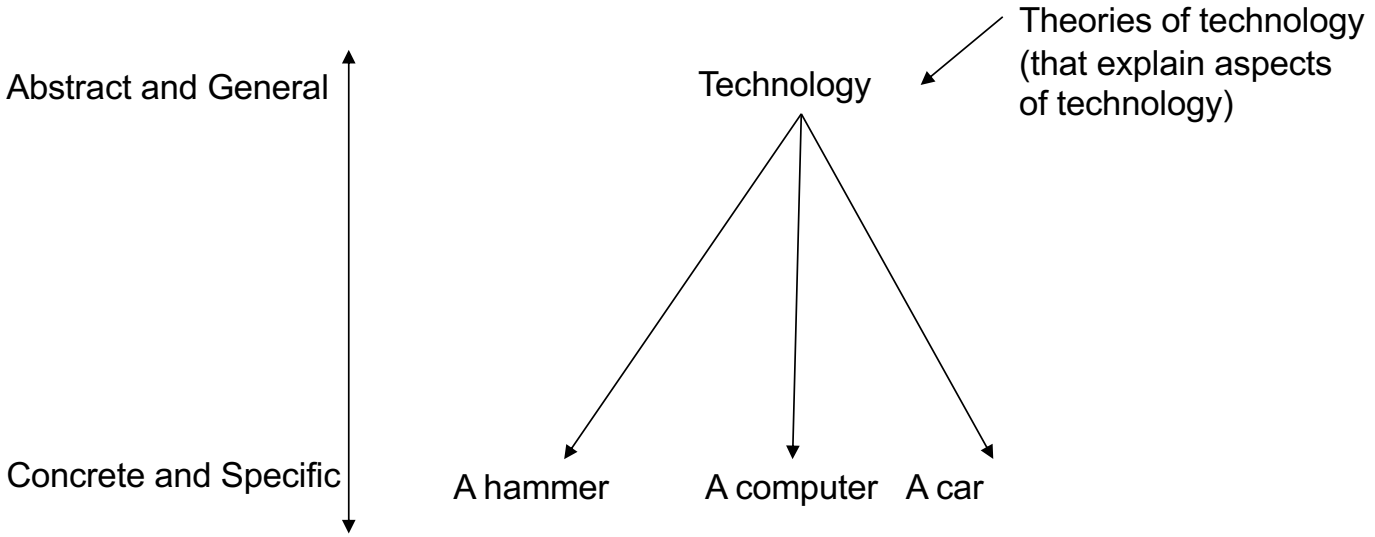
What is theory?

- Physics: the term *theory* is generally used for a mathematical framework—derived from a small set of basic postulates that is capable of producing experimental predictions for a given category of physical systems (Wikipedia)
- Science in general: Set of general statements that can be falsified
- Some IS researchers: Relations between concepts and explanations of these relations
- "Theoretical perspective: the philosophical stance informing the methodology and providing context for the process and grounding its logic and criteria" (Silvia's lecture in IN5210 2021)

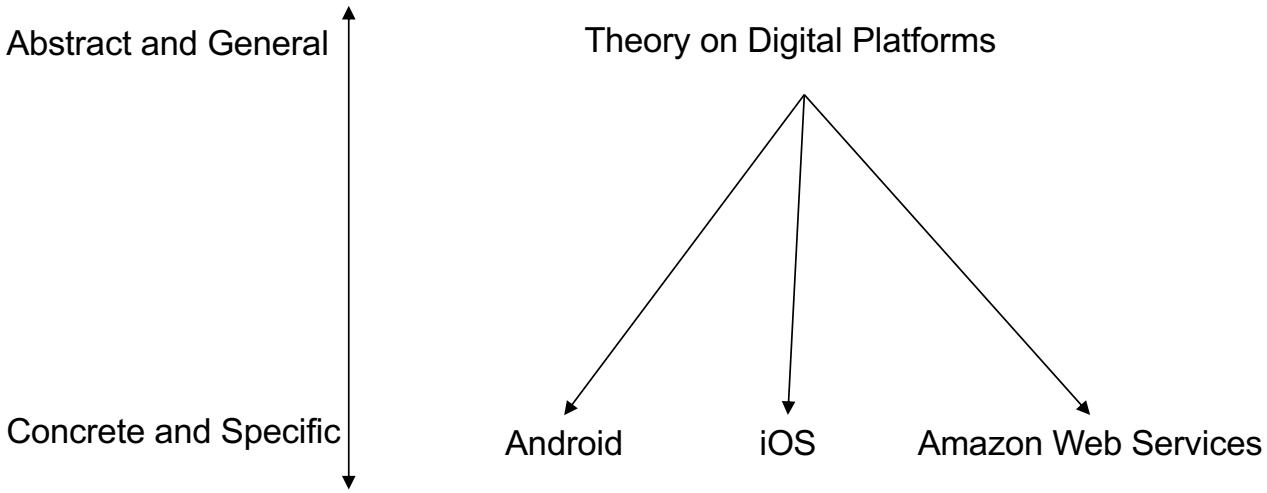
A way to think about theory in IS

- Theories are “abstract entities that aim to describe, explain, and enhance understanding of the world and, in some cases, to provide predictions of what will happen in the future and to give a basis for intervention and action” (Gregor, 2006, p. 616)
- A theory is a general and abstract account of something (Schatzki 2001; Alter 2018)
- A theory of X is a general and abstract account of X that might take a variety of forms such as typologies, conceptual frameworks, models, or other descriptions or propositions (Schatzki 2001), which enhances “understanding of the world and, in some cases, to provide predictions of what will happen in the future and to give a basis for intervention and action” (Gregor 2006)

“a general and abstract account of something”



“a general and abstract account of something”

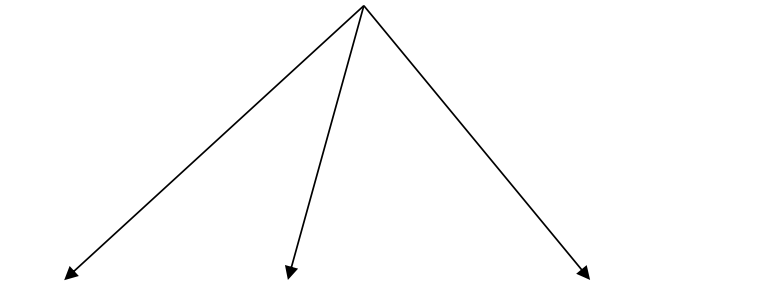


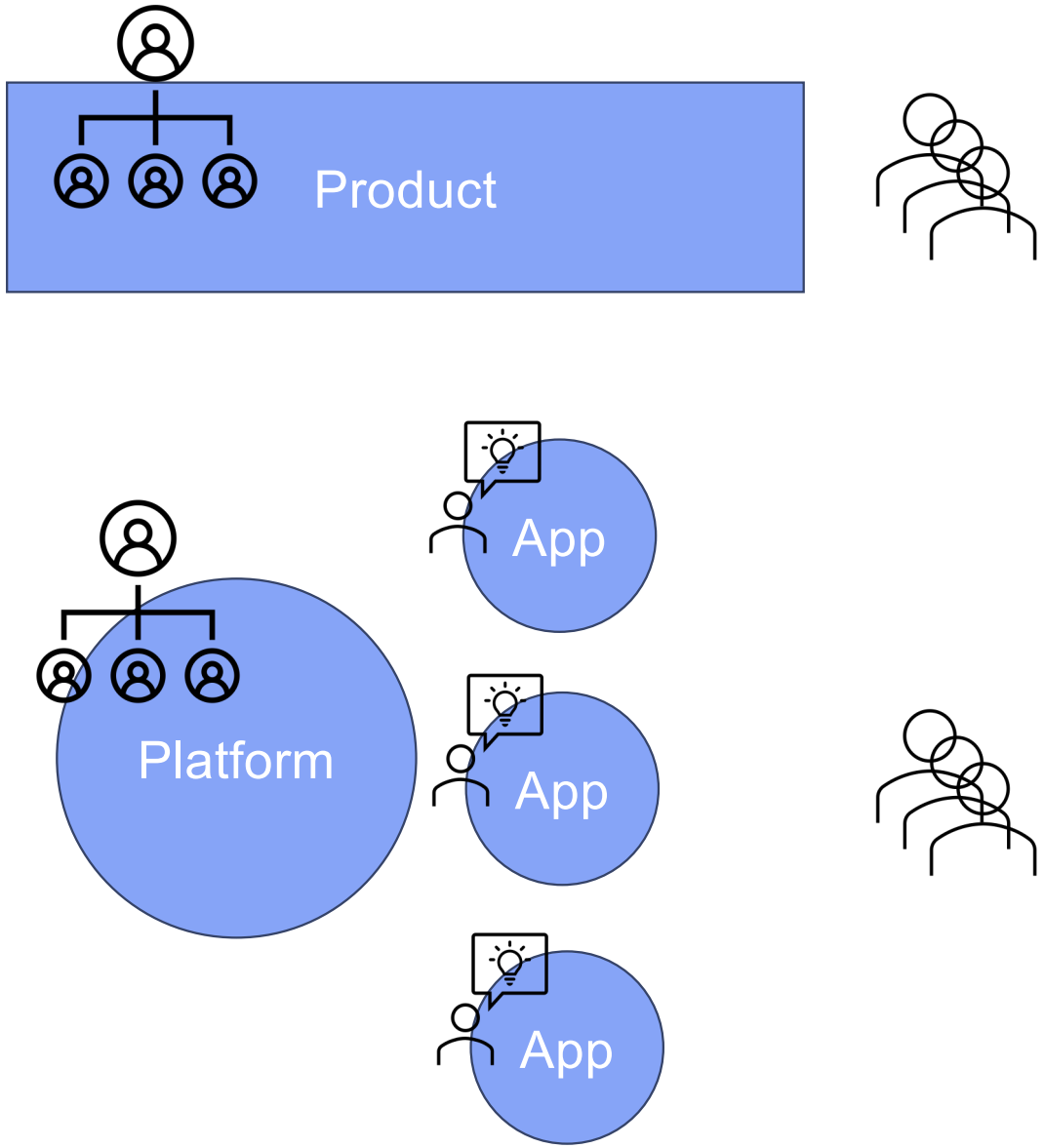
“a general and abstract account of something”

Abstract and General

Concrete and Specific

Unlike traditional products, which are developed and innovated mainly by the firm itself, digital platforms enable innovation by opening up resources and interfaces so that many independent actors can contribute new applications and services




Product
Platform
App
App
App

A theory of X is a general and abstract account of X that might take a variety of forms such as typologies, conceptual frameworks, models, or other descriptions or propositions

Table 1. Definitions of the Key Constructs

Construct	Definition	Operational measure	Guiding references
Architectural near-decomposability	Degree of an app's independence from the platform and interdependence within the app. The former is the degree of modularity in an app's external architecture, and the latter is the degree of monolithicity in the app's internal architecture.	(a) and (b) below	Simon (1962)
(a) Modularity of external architecture	The degree to which an app is loosely coupled to the focal platform through platform-specific interfaces.	Adapted from Tiwana (2015)	Frenken and Mendritzki (2012), Sanchez and Mahoney (1996)
(b) Monolithicity of internal architecture	Tightness of coupling among the functional elements within an app.	New scale	Brusoni and Prencipe (2006), Clark (1985)
Platform synergy	The degree to which an app's implementation leverages the focal platform's capabilities.	New scale	Sarker et al. (2012), Schilling (2000)
Competitive lead	Extent to which an app outperforms its cohort in the platform market.	Archival measure	Barnett (2008), Lerner (1997), Lin et al. (2011)

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Function of theory

- Why do we use and relate to theory?



Function of theory

- Understand and explain something concrete through something general and abstract
  - Example: Uber -> theory of transaction platforms -> Understand Nabobil
- Provides us a perspective on what we seek to understand
  - Android as something purely technical, or as Android as something sociotechnical
  - By using a theory, parts of what we study gets foregrounded, other aspects get backgrounded
- Entails that we can learn from one place to another
  - If you understand digital business strategy, you can apply it in your own venture

– Theory allows **accumulation of knowledge**

Function of theory in Information Systems

- **Theory on research objects studied in the field:**
  - Theory developed and used to understand specific phenomena within Information Systems
  - Example: digital platforms, digital transformation, innovation, integration, standardization

- **Theory as lens for framing how we analyze the objects:**
  - Theory developed to understand general social phenomena (social structures, role of language), used to study specific phenomena within Information Systems
  - Example:
    - Economics (understanding of markets): We can understand Uber by using theories from economics, how to efficiently manage transactions
    - Institutional Theory: Why are organizations sometimes very hard to change, even though we introduce new technology? (ex. University)

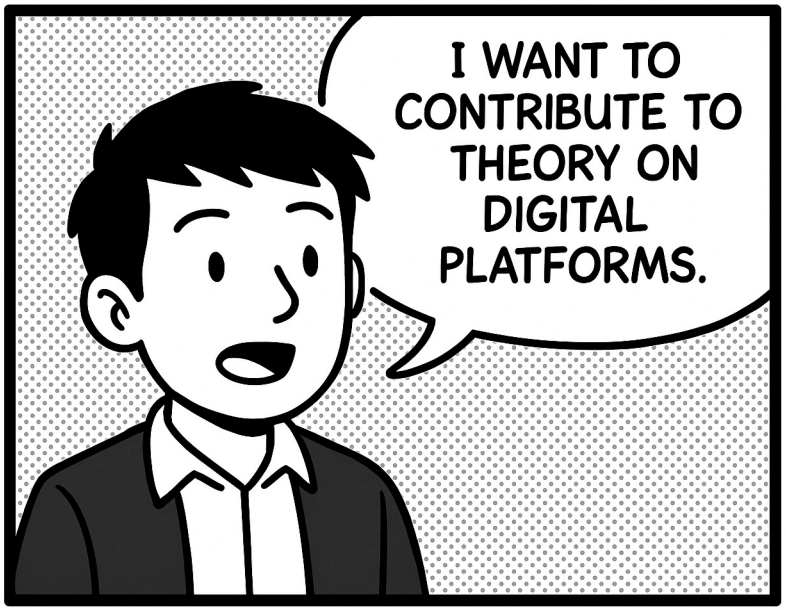
Function of theory in Information Systems

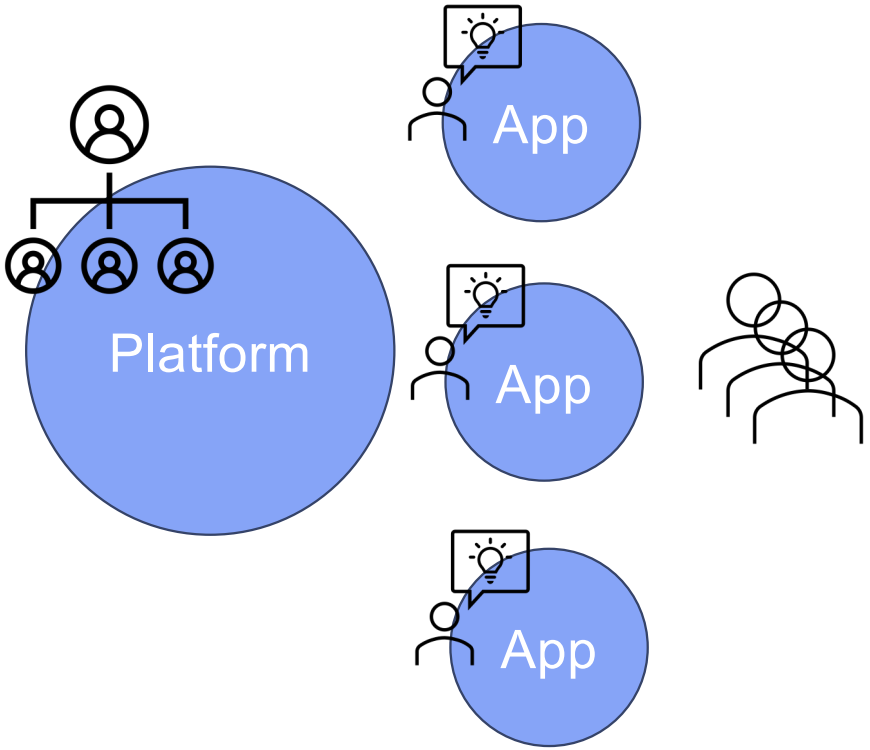
Often described as «Related research» or «Area of concern»

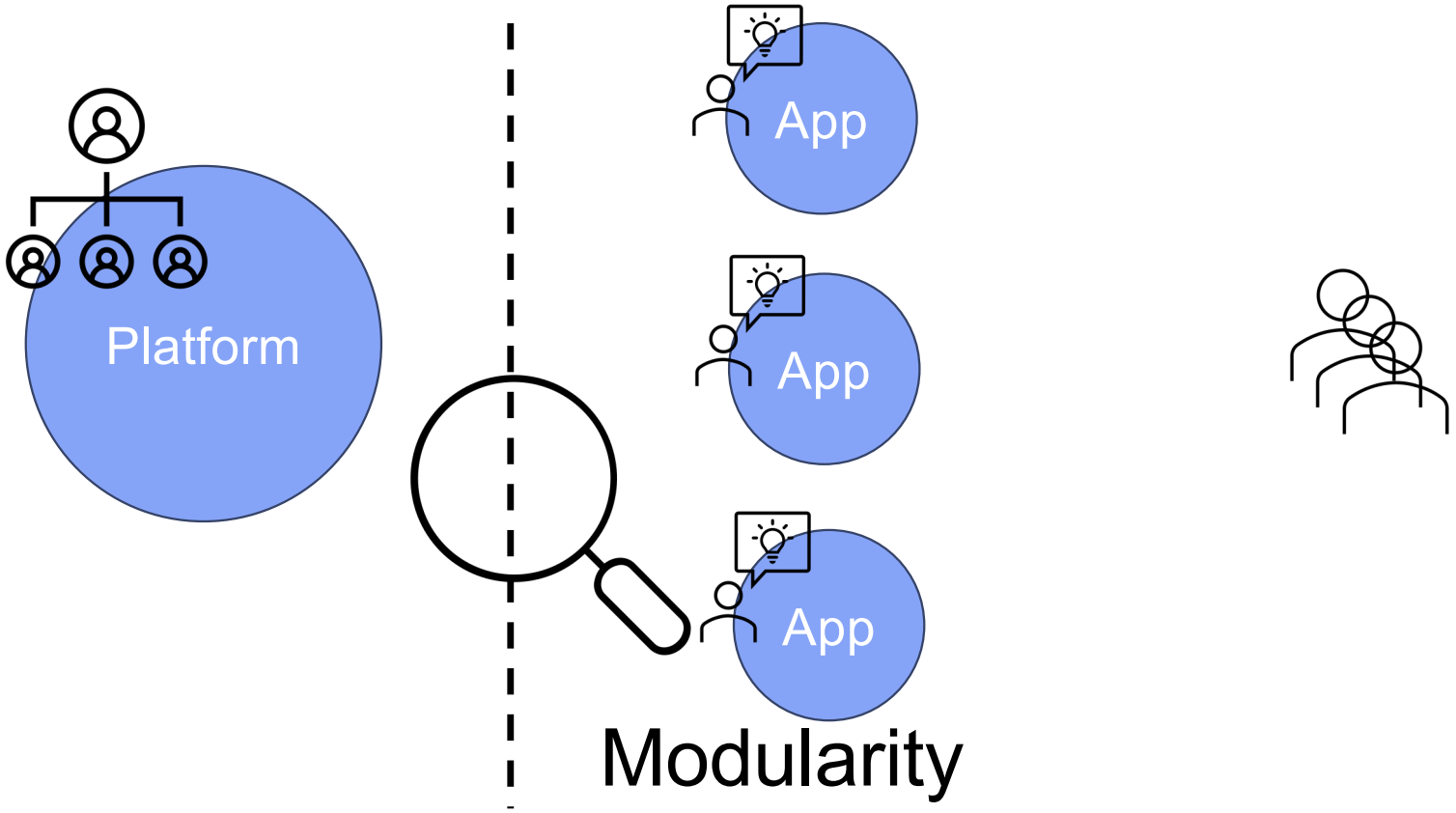
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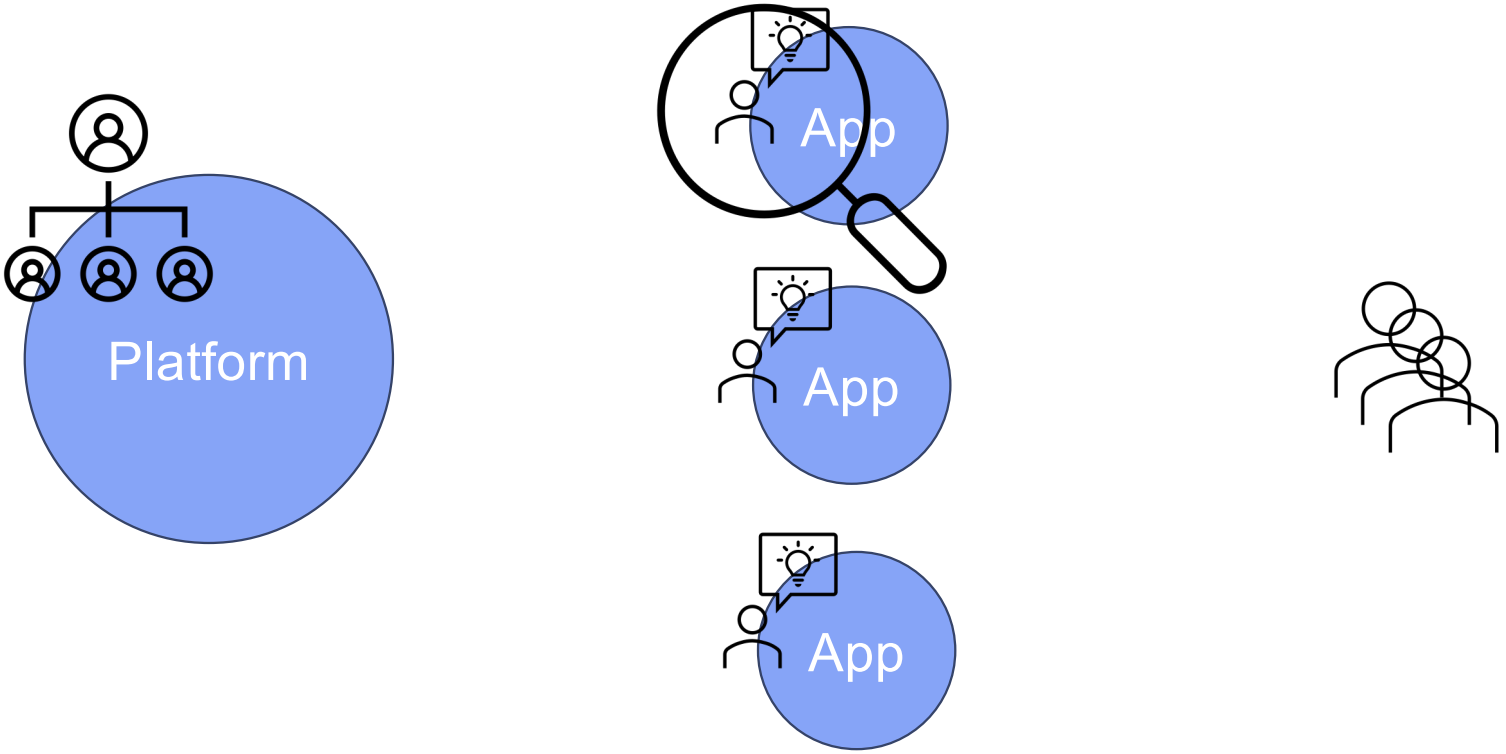
Often described as «Conceptual framing», «Conceptual framework»,or «Theory»


I WANT TO CONTRIBUTE TO THEORY ON DIGITAL PLATFORMS.


Platform
App
App
App


Platform
App
App
App
Modularity

Practices



What kind of theory will you learn about?

- Systems thinking
- From IT to IS design and digitalization
- Digital platforms
- Information infrastructures
- Data work
- Institutional theory

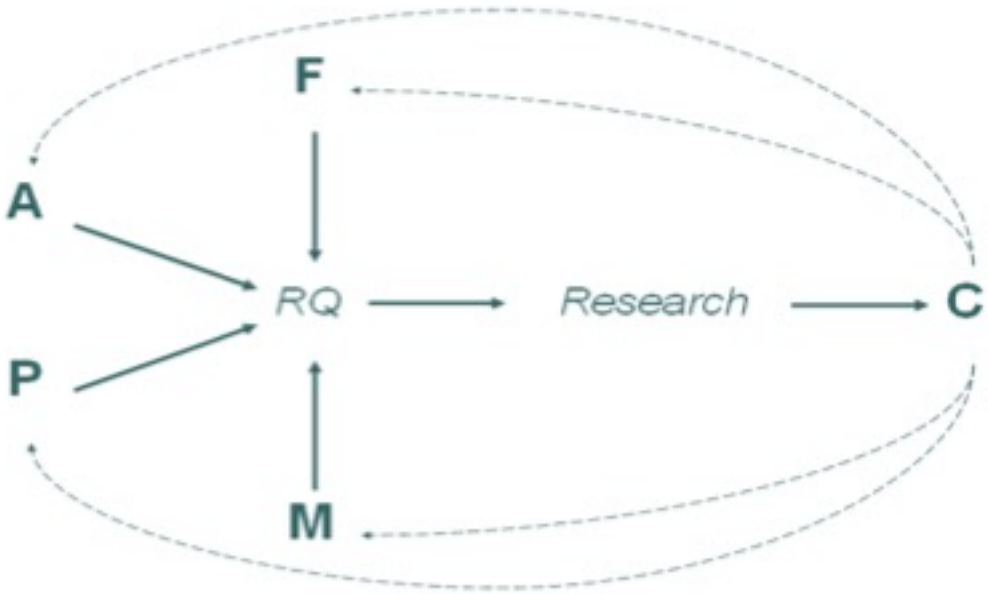
Agenda

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How do I use theory in my own master thesis?



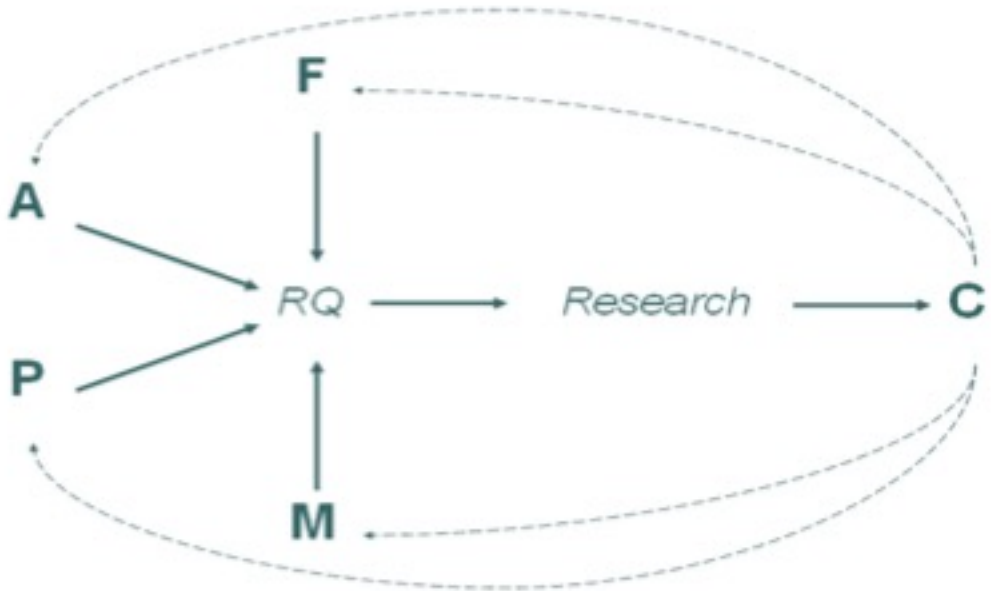
- **P:** Practical problem
- **A: A**rea of Concern
- **F**: Conceptual **F**raming
- **M:** Methods
- **C**ontributions

Role of theory:

- **A**rea of Concern
- Conceptual **F**raming
- **C**ontributions to **A**
- Why typically not to F?

What we often see in master theses

- The area of concern and the conceptual framing is the same
- Theories are combined and «constructed»: combination and synthesis of theory that allows you to both analyze your data and contribute new knowledge
- Example: Kristin Eika Gjørven's thesis from 2024


F
A
RQ
Research
C
P
M

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How do I find and manage research literature?

Finding literature, managing literature, citing research literature

- Finding:
  - Google Scholar
  - Scopus
  - AIS Library
- Managing:
  - Zotero
  - Endnote
- Citing
  - https://www.ub.uio.no/english/writing-publishing/referencing/index.html