

Research Design

MPH_CSMR Business Research

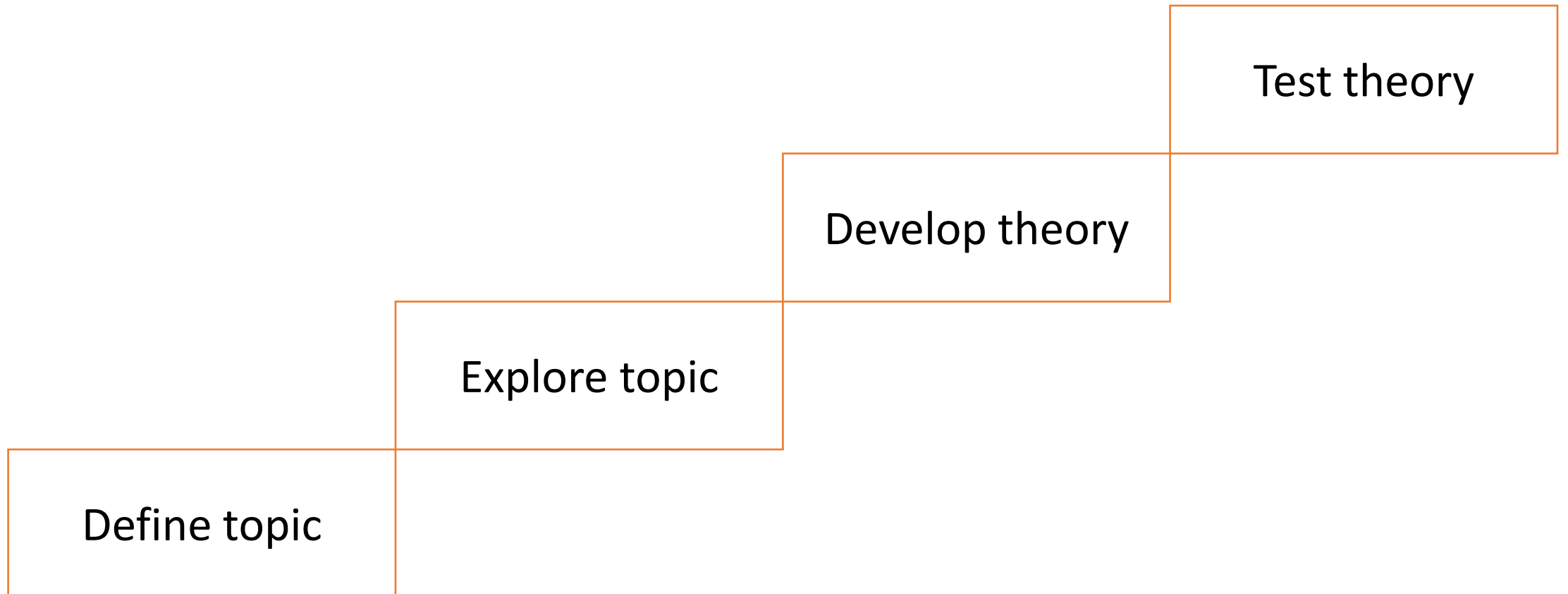
02-10-2023

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In essence, the research process can be compressed into four stages that form a *research ladder*.





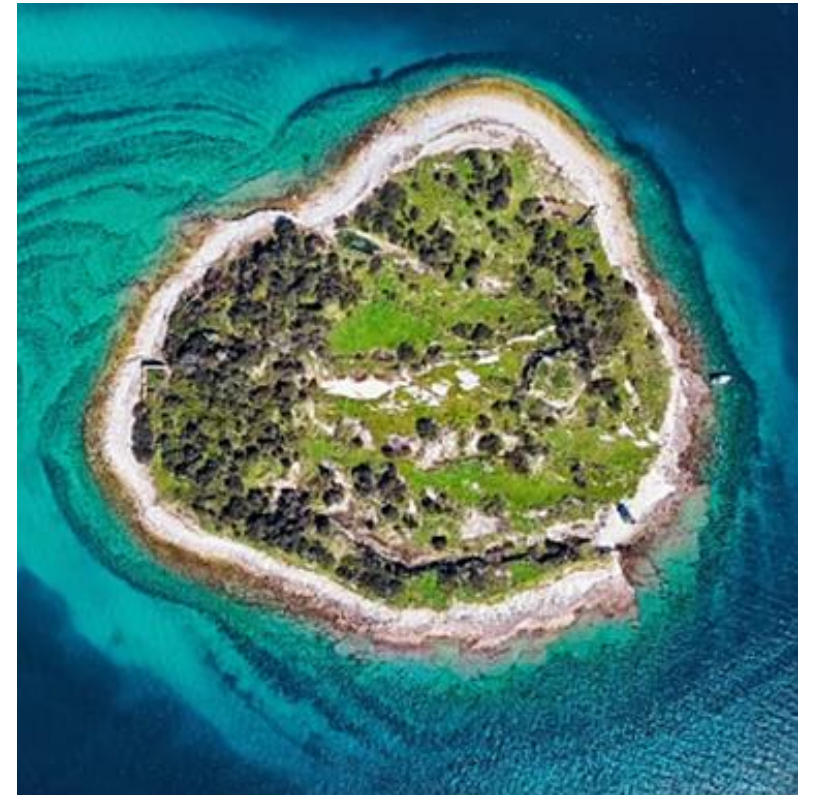
It all starts with a
topic.



First, the topic might be defined broadly, yet the task is to narrow it down as much as possible.



Zoom-in



Personal example

In the beginning of my PhD studies:

I want to study the integration of Business Process Management and Knowledge Management

After the 1st year of PhD studies:

I want to study knowledge-intensive processes (KiPs)

3rd year of PhD studies:

I want to study:

- 1) How can KiPs be conceptualized?
- 2) How do knowledge processes influence individual and team performance depending on the degree of knowledge intensity?
- 3) What are the circumstances under which process actors deviate from standard procedures in KiPs and what do these deviations lead to?



How far shall we go in
narrowing down the
topic?



Far enough to be able to make a *theoretical contribution*.

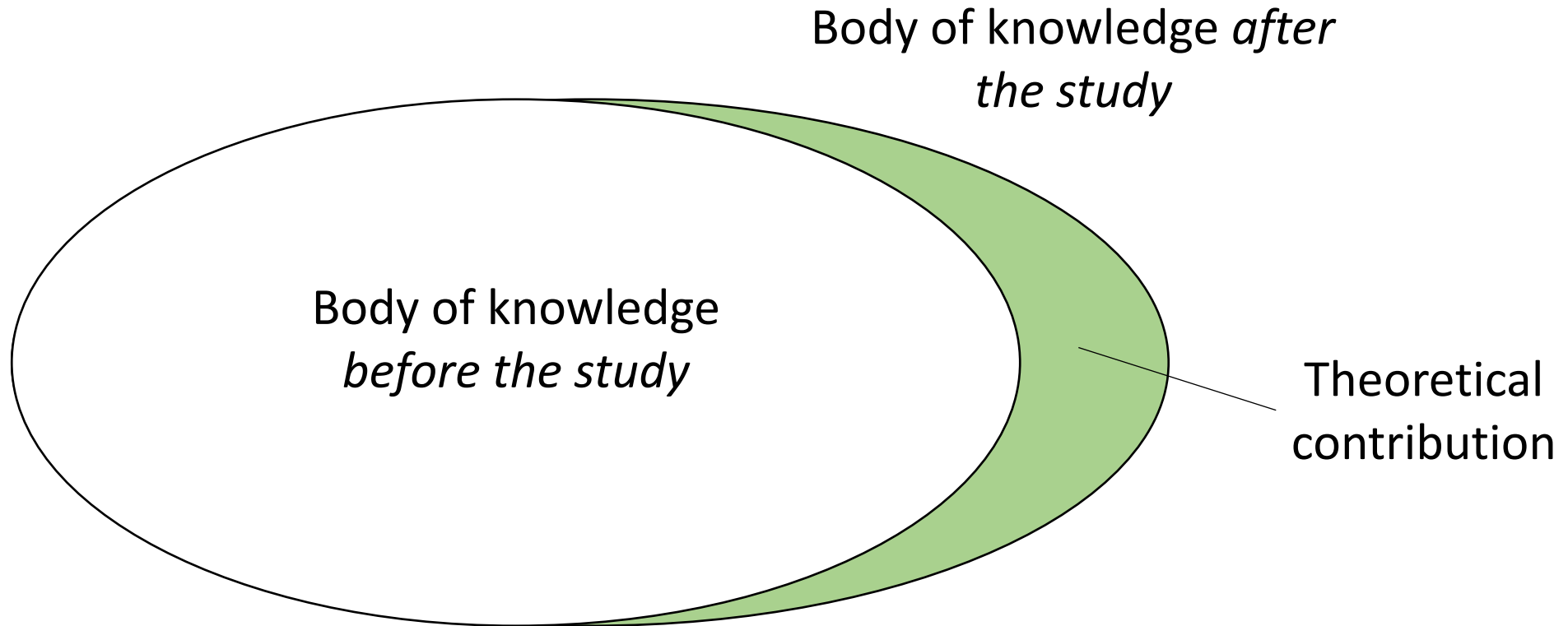
• *Academy of Management Review*, 1989, Vol. 14, No. 4, 490–495

What Constitutes a Theoretical Contribution?

DAVID A. WHETTEN
University of Illinois

Source: [Whetten \(1989\)](#)

A theoretical contribution expands the existing body of knowledge.



Every theory must address three essential questions.

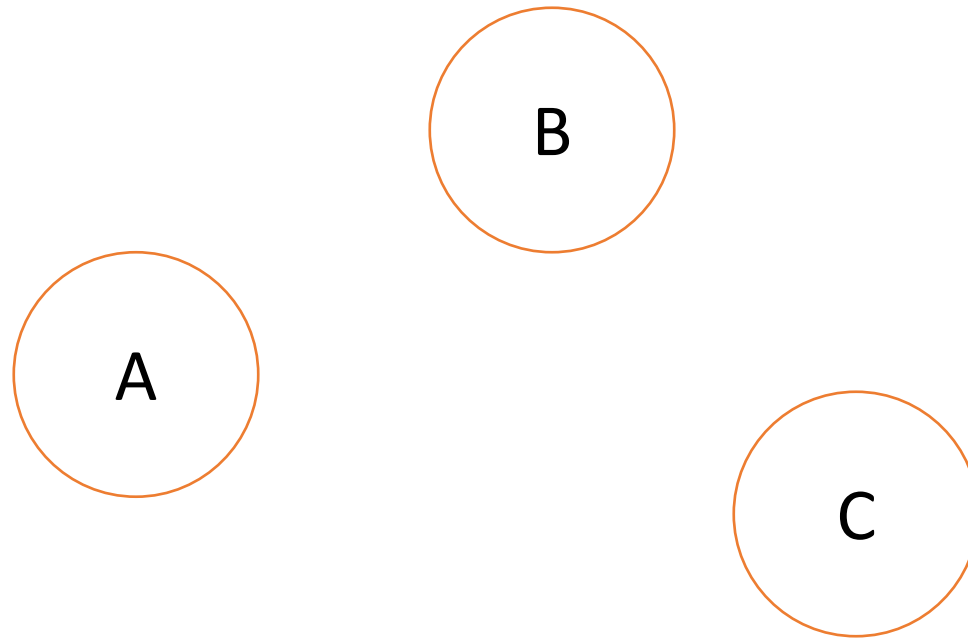
What?

How?

Why?

What?

Which factors (variables, constructs, concepts) are considered as part of the explanation of a studied phenomena?



Two criteria exist to judge the quality of decisions made regarding factors considered in the theory.

Comprehensiveness

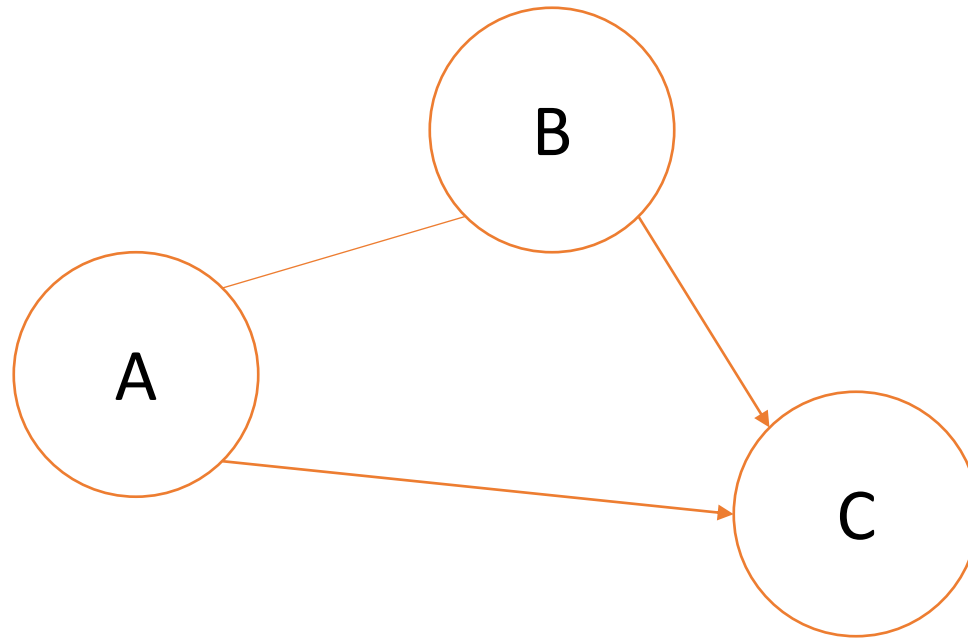
Are all relevant factors included?

Parsimony

Should some factors be deleted because they add little additional value to our understanding?

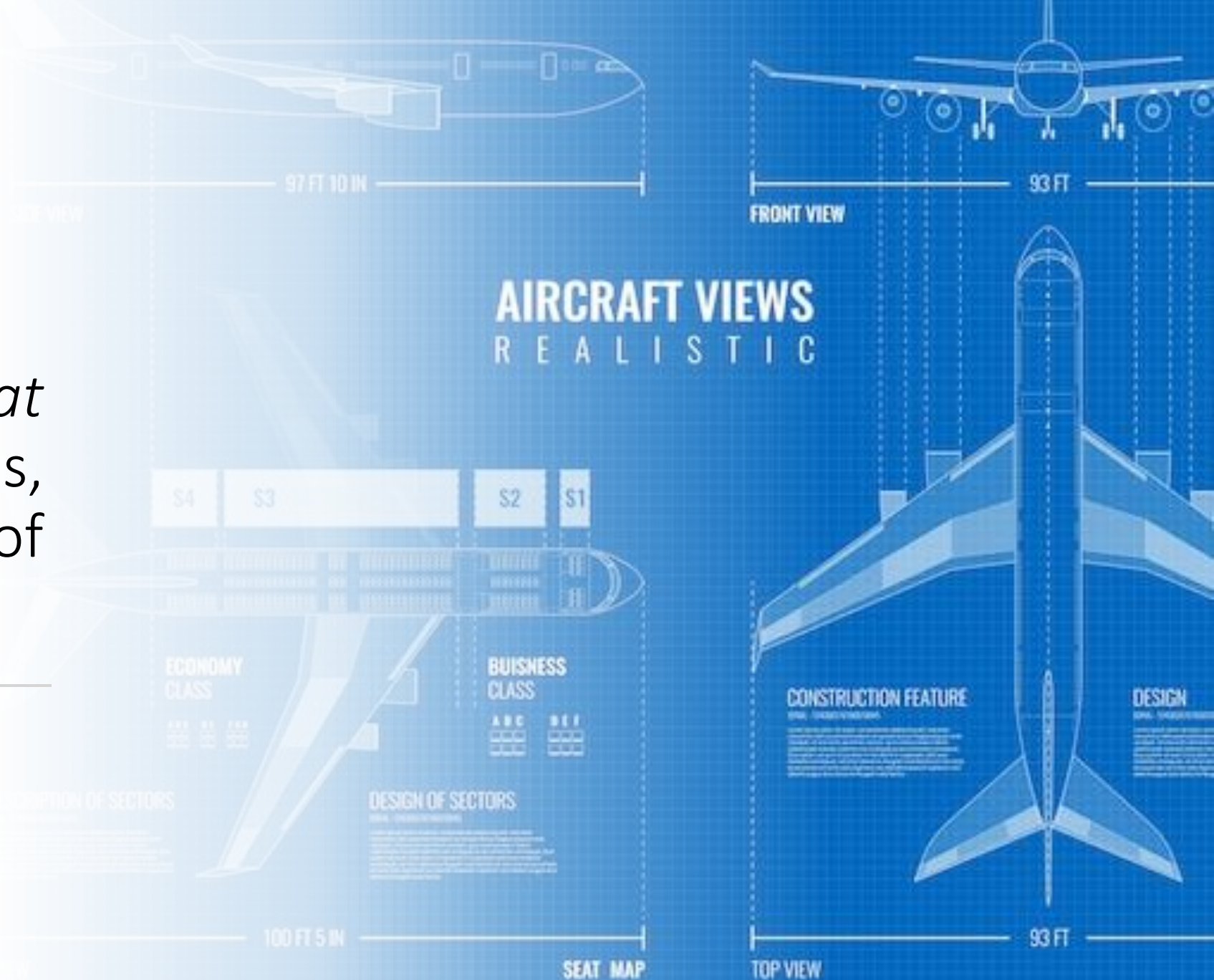
How?

What are the relationships between the factors?



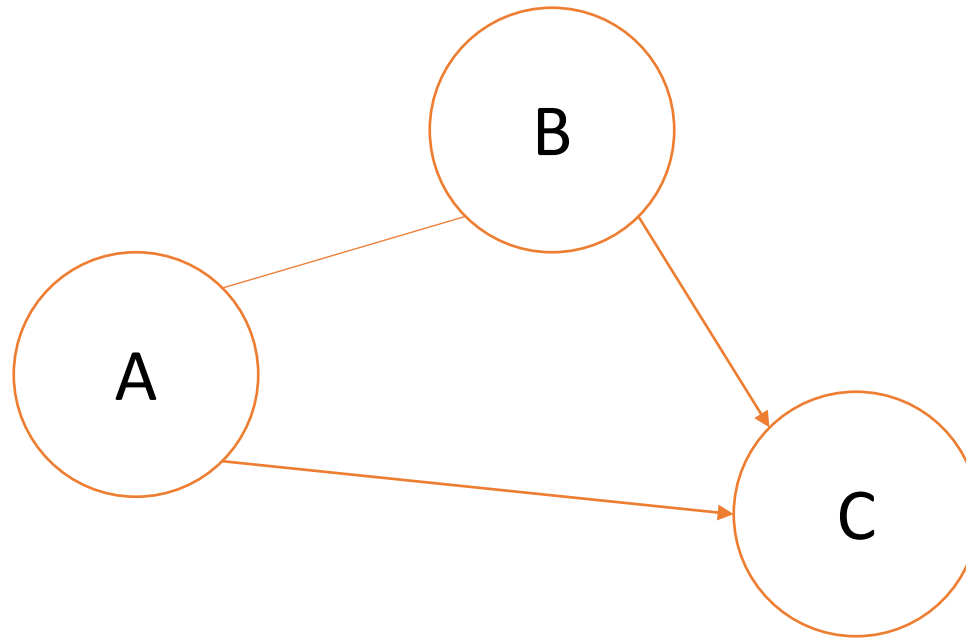


By answering *What* and *How* questions, we build a *domain* of the theory.



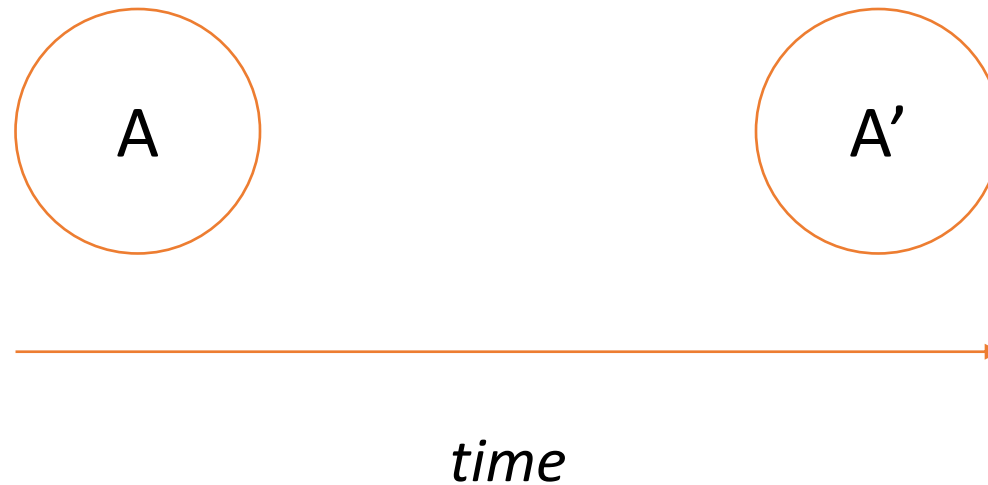
Btw, the model presented in the slide will be a part of a so-called *variable theory*.

Variable theory: How do constructs relate to each other?

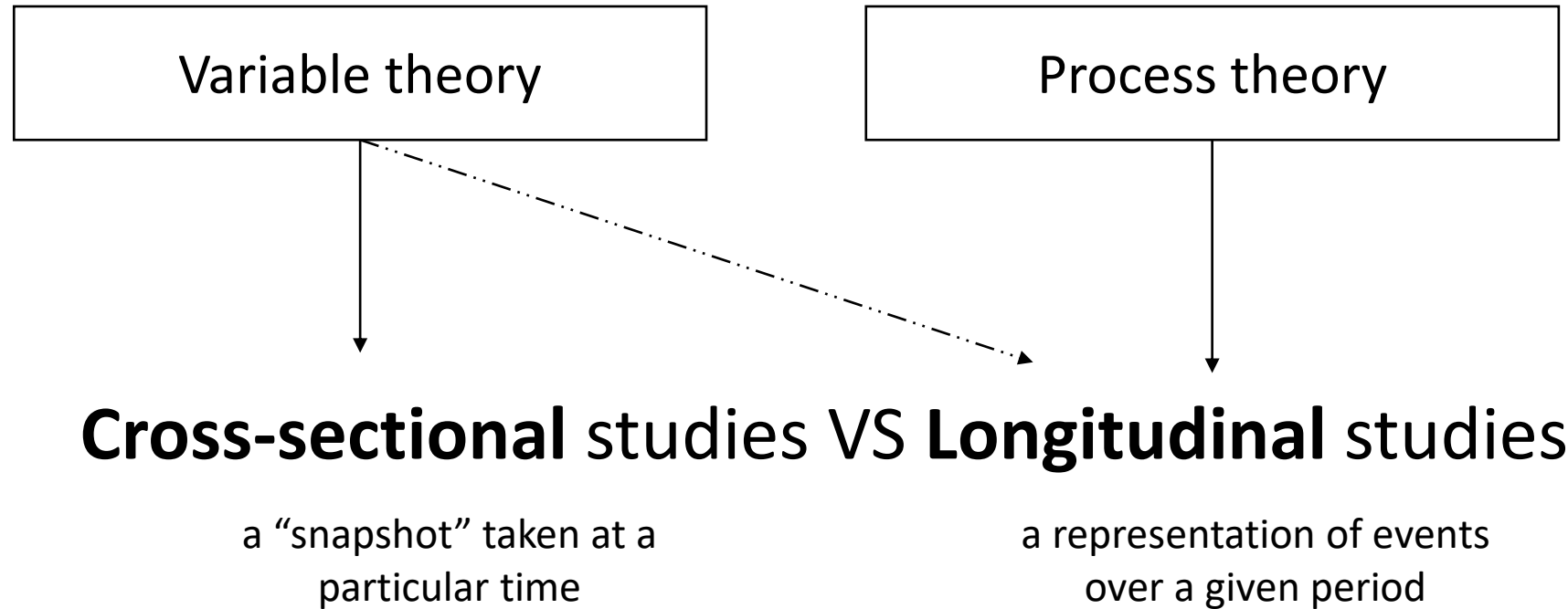


However, there is another type of theory – a *process theory*.

Process theory: How does a construct relate to past manifestations of itself?



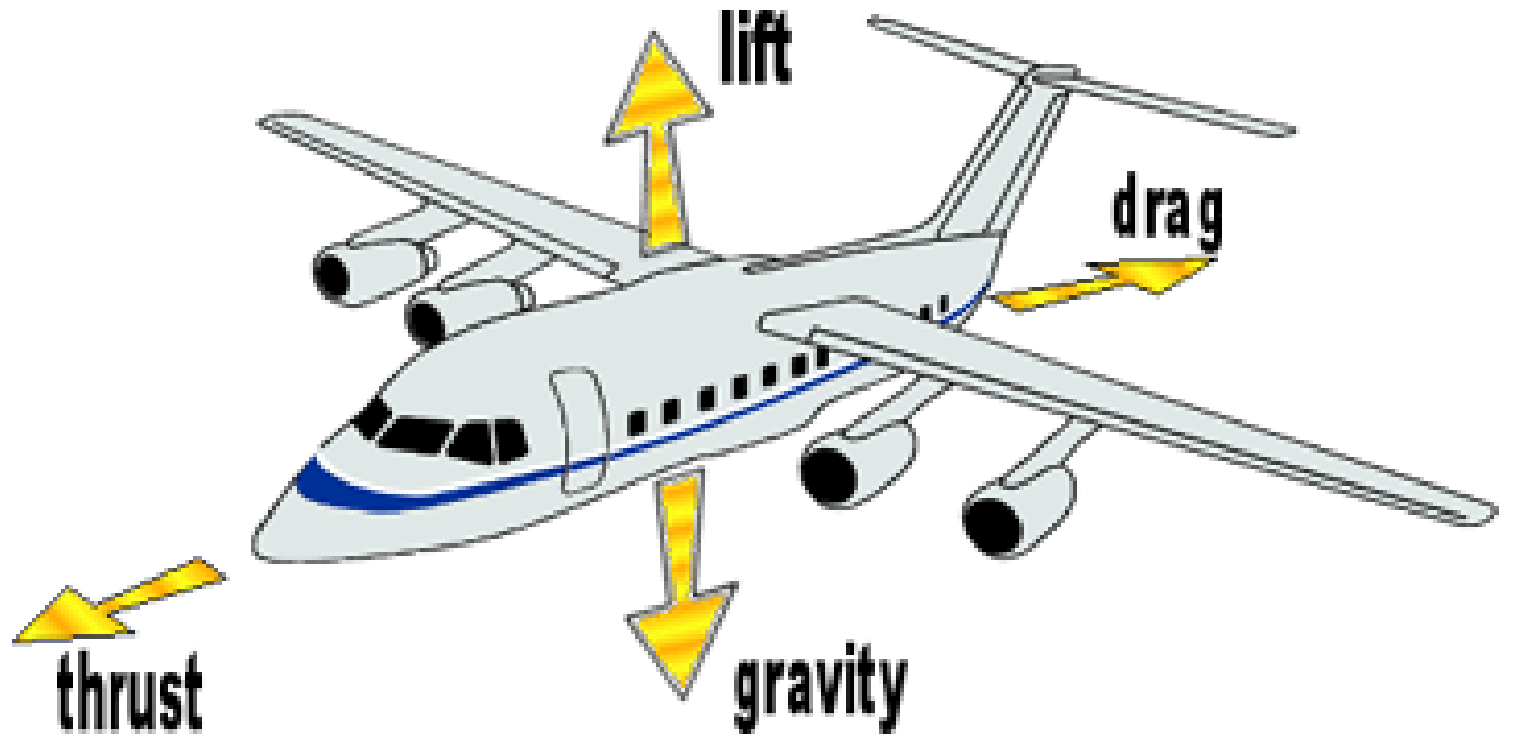
A type of theory will impact the choice of the timeframe for the study.



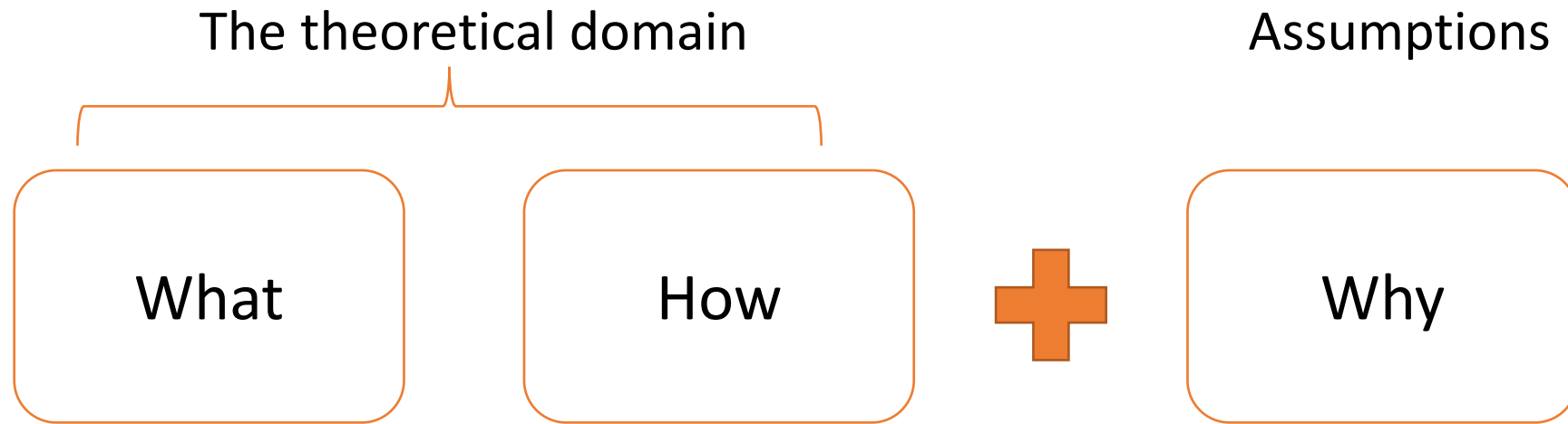
Why?

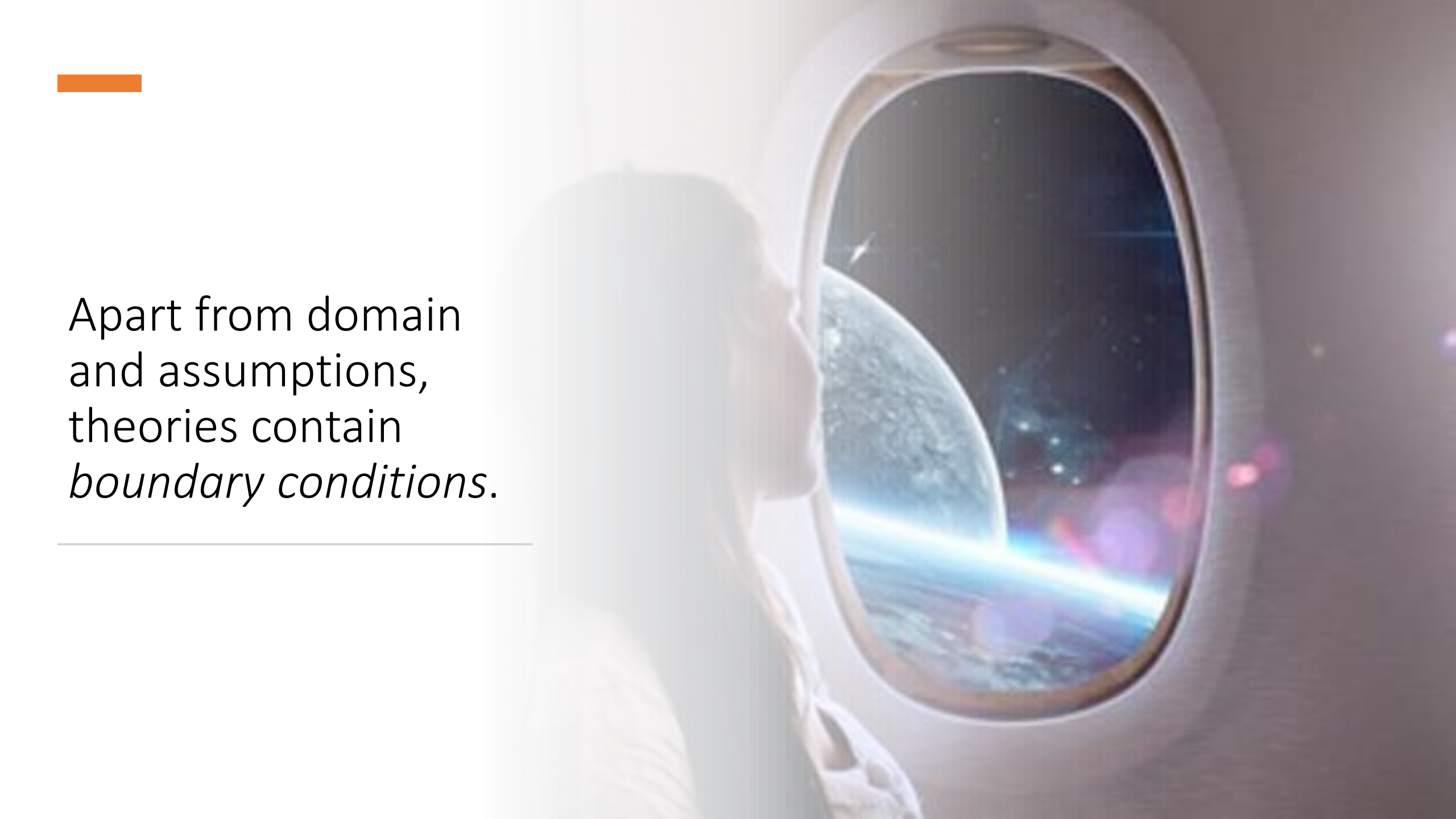
What are the underlying psychological, economic, or social dynamics that **justify** the selection of factors and the proposed relationships?

By answering the *Why* question, we make theoretical *assumptions*.



What and How describe; only Why explains.



A person is seen in profile, looking out of a circular window in a spacecraft. The view outside shows the Earth's horizon with a bright blue atmosphere, set against the dark void of space filled with stars. The person's face is softly lit from the left, and the overall scene has a dreamy, ethereal quality.

Apart from domain
and assumptions,
theories contain
boundary conditions.

Boundary conditions set limits to the generalizability, and as such constitute the range of the theory. In essence, there are three such conditions:

Who?

Where?

When?

Who and Where describe the *population of the study*.

Absorptive capacity, strategic flexibility, and business model innovation: Empirical evidence from Italian SMEs

Source: Miroshnychenko et al. (2021)

If the population of our study consists of groups, and we are interested in the point of view of multiple group participants, then we will be conducting *case study research*.

© *Academy of Management Review*, 1989, Vol. 14, No. 4, 532–550

Building Theories from Case Study Research

KATHLEEN M. EISENHARDT
Stanford University

Source: [Eisenhardt \(1989\)](#)

While When outlines **situations** in which the theory would apply.

Leadership matters in crisis-induced digital transformation: how to lead service employees effectively during the **COVID-19 pandemic**


Source: Bartsch et al. (2021)

Before getting to explore the topic, it is important to positively answer the following check-up questions:

Do we have an idea about *factors* that can be potentially included in our theoretical domain?

Have we decided on *who* is going to participate in our study?

Do we know *where* the study participants are located?

A man wearing a wide-brimmed hat and a white tank top is climbing a tree in a forest. He has a thick rope slung over his shoulder and is holding onto a branch. The background is filled with green foliage and sunlight filtering through the trees.

When the topic is defined, we get to *explore* it.

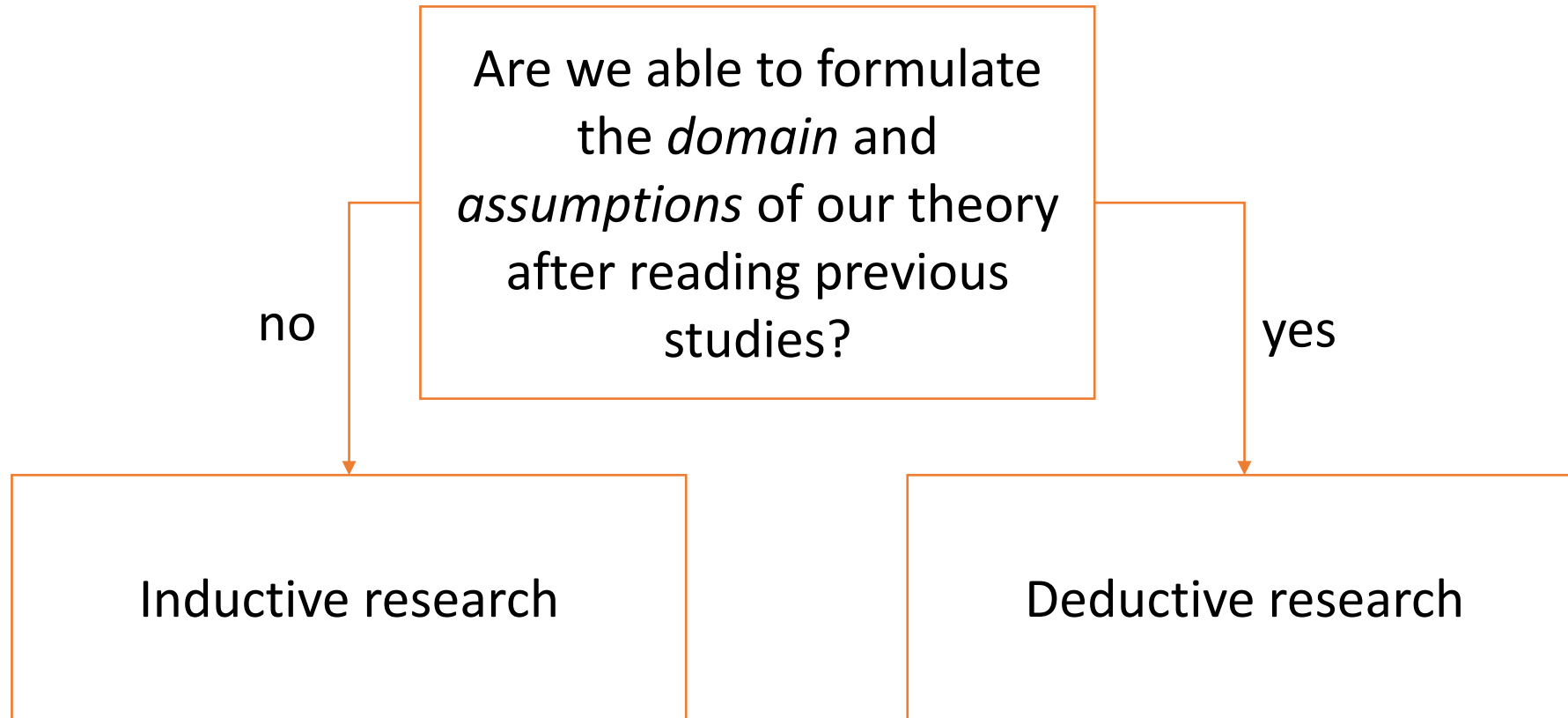


The exploration starts
with conducting a
*literature review**.

* The topic will be covered in
detail on 9th of October



The extent to which the selected topic was studied in the past directly influences the choice of the research approach.



In the *inductive research*, the exploration continues with collecting primary data in the field (more detail on the 16th of October)

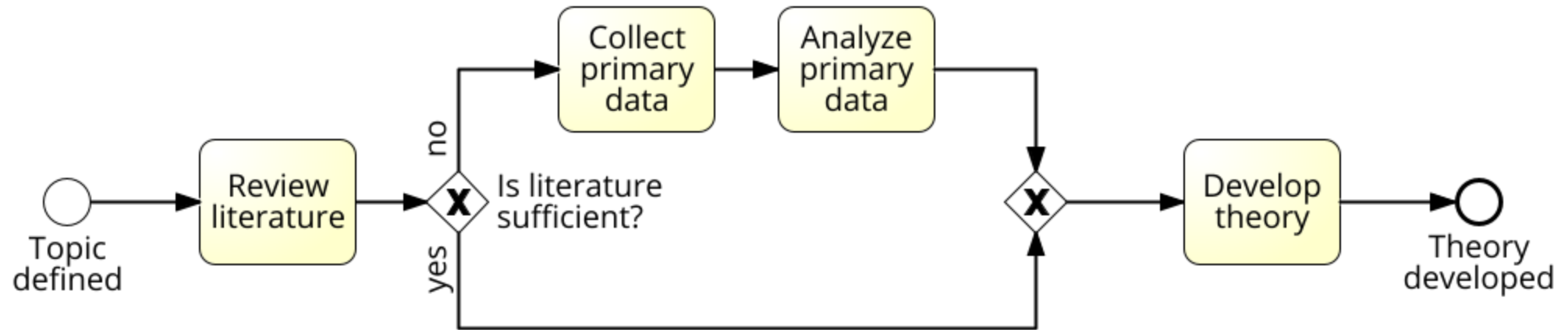


Interviews



Observation

To summarize, the process of the research topic exploration is as follows:



Once the theory was developed, it must be *tested*.



In *inductive research*, evidence to support (or reject) the theory is found in the second round of interviews/observations.



Interviews

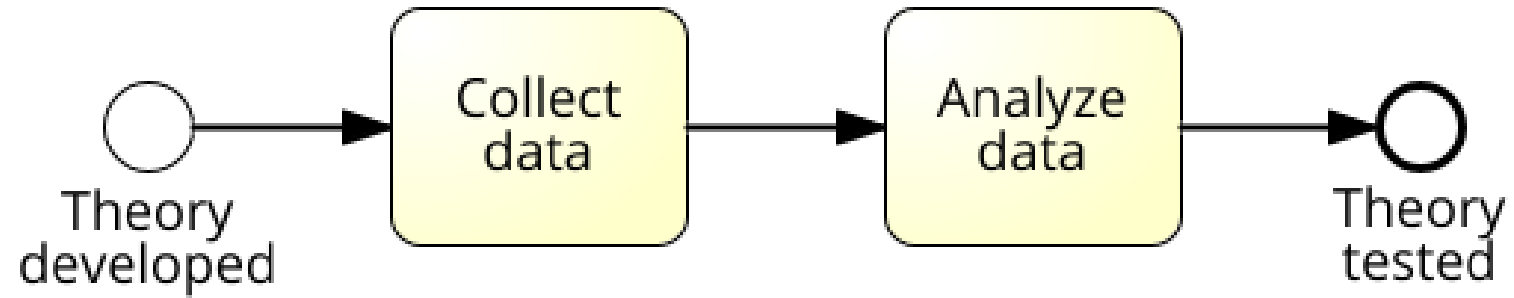


Observation

In *deductive research*, primary data are collected specifically with the purpose of testing the theory (more detail on the 16th of October).



To summarize, the process of supporting the theory with evidence is as follows:






And now let's
have a look at
two examples.



Inductive research

Deviation from Standards and Performance in Knowledge-Intensive Processes: Evidence from the Process of Selling Customized IT Solutions

Mikhail Monashev¹  , Michal Krčál¹ , and Jan Mendling^{2,3,4} 

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Source: [Monashev et al. \(2023\)](#)

Deductive research

The current issue and full text archive of this journal is available on Emerald Insight at:
<https://www.emerald.com/insight/1463-7154.htm>

Nexus of knowledge-oriented leadership, knowledge management, innovation and organizational performance in higher education

Knowledge management in HEIs

1731

Received 8 July 2019
Revised 31 December 2019
Accepted 20 January 2020

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Source: [Rehman and Iqbal \(2020\)](#)

Let's start with an example of inductive research.

Deviation from Standards and Performance in Knowledge-Intensive Processes: Evidence from the Process of Selling Customized IT Solutions

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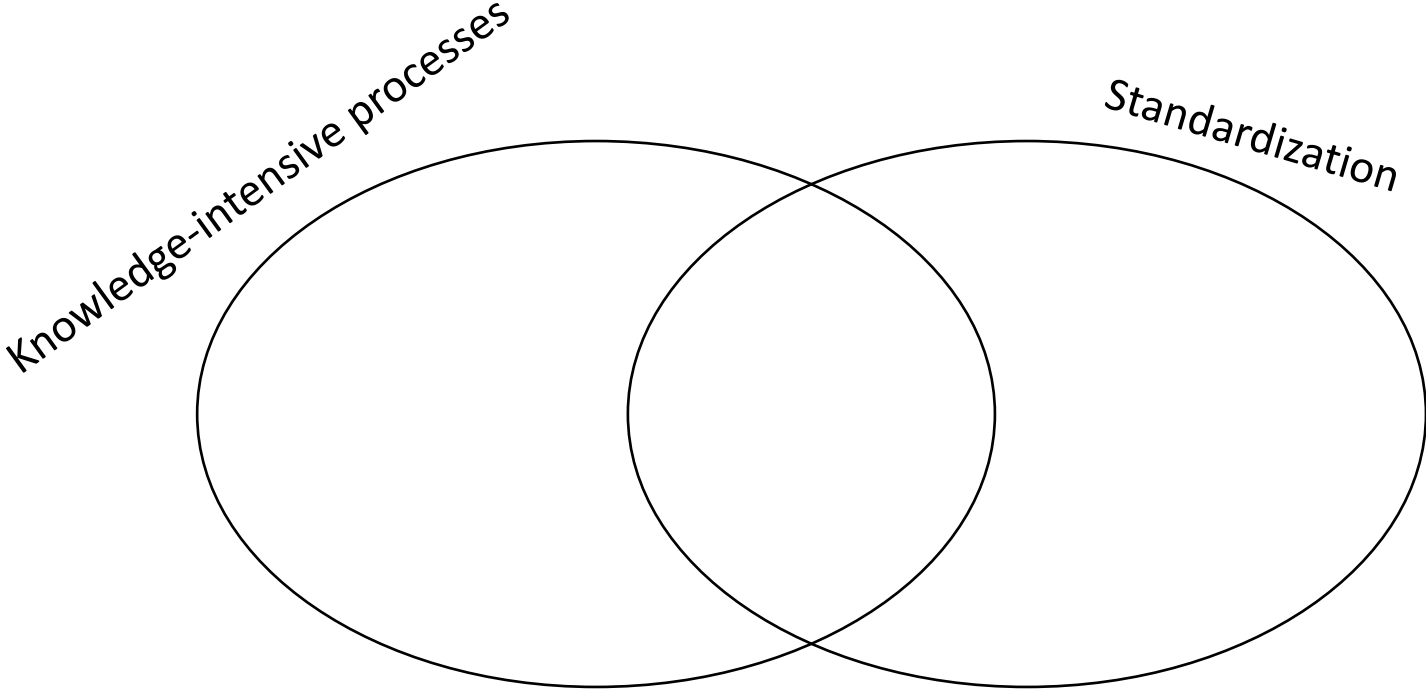
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Source: [Monashev et al. \(2023\)](#)

Step 1: Define Topic



Step 2: Explore Topic

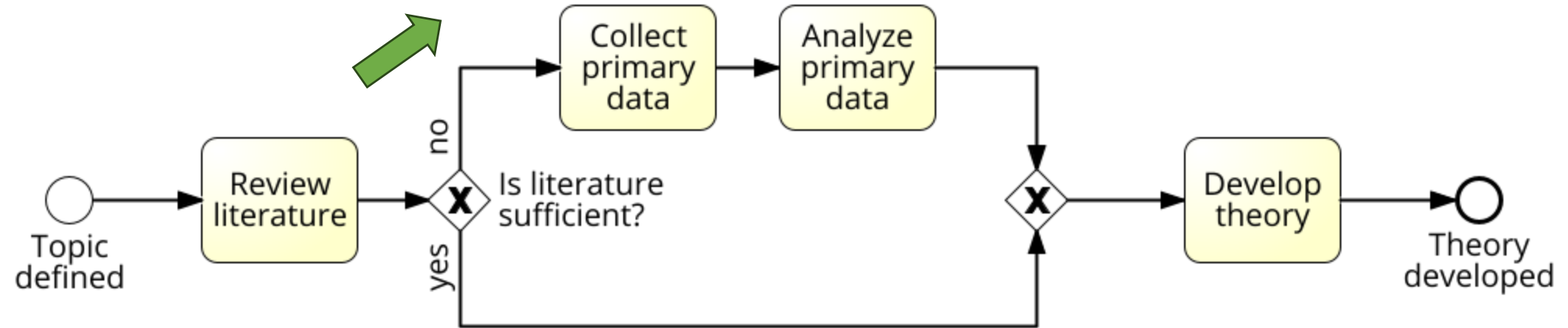
2 Theoretical Background

This section first summarizes previous findings on the positive effects of standardization on various aspects of process performance and drivers of and barriers to standardization. It goes on to characterize KiPs in distinguishing them from routine processes and outlines the benefits standardization might bring to KiPs.

2.1 Process Standardization

2.2 Knowledge-Intensive Processes

Literature was NOT sufficient

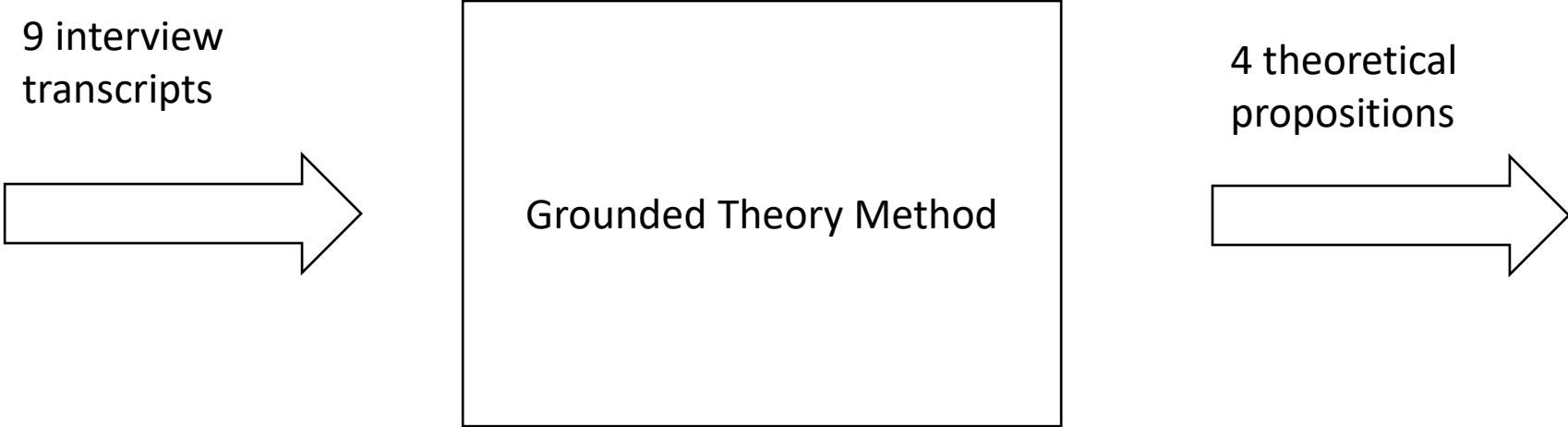


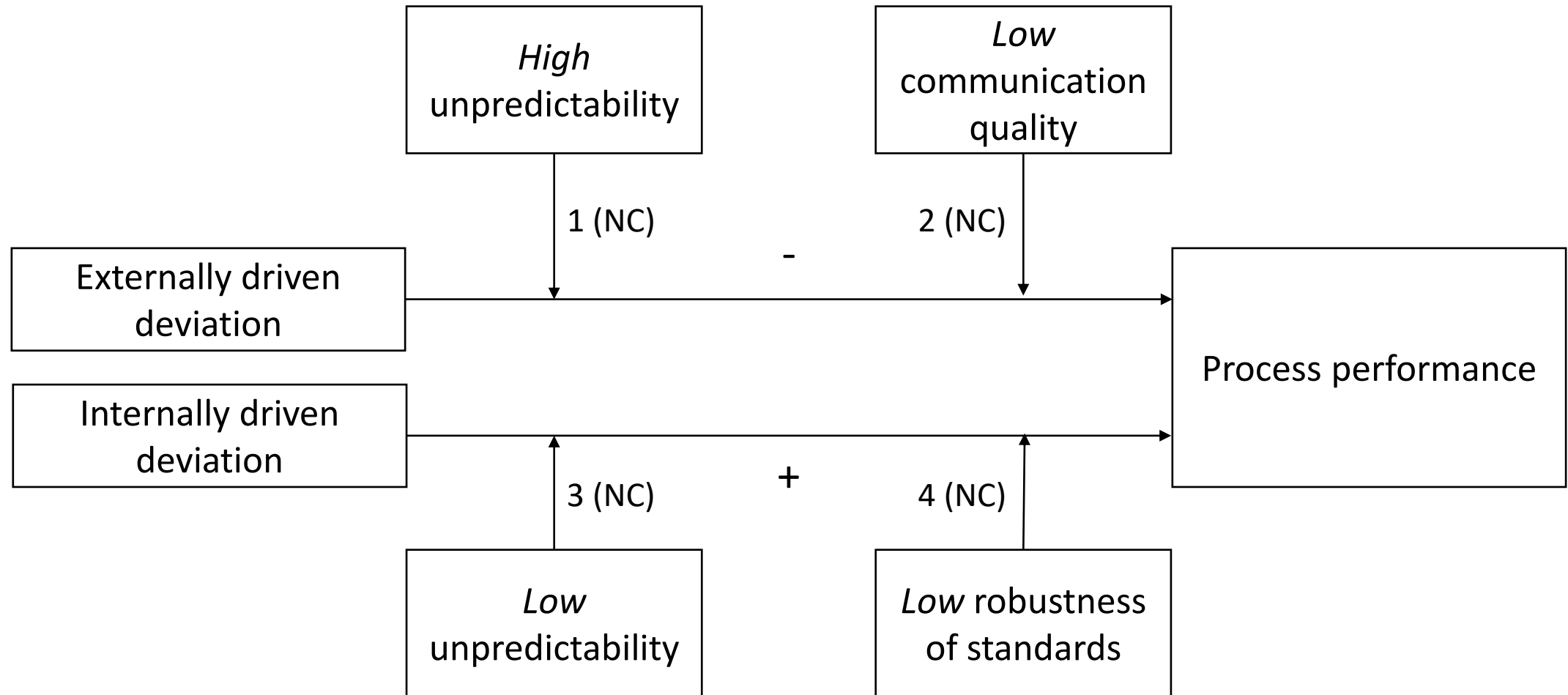
Step 3: Develop Theory – Collect Primary Data



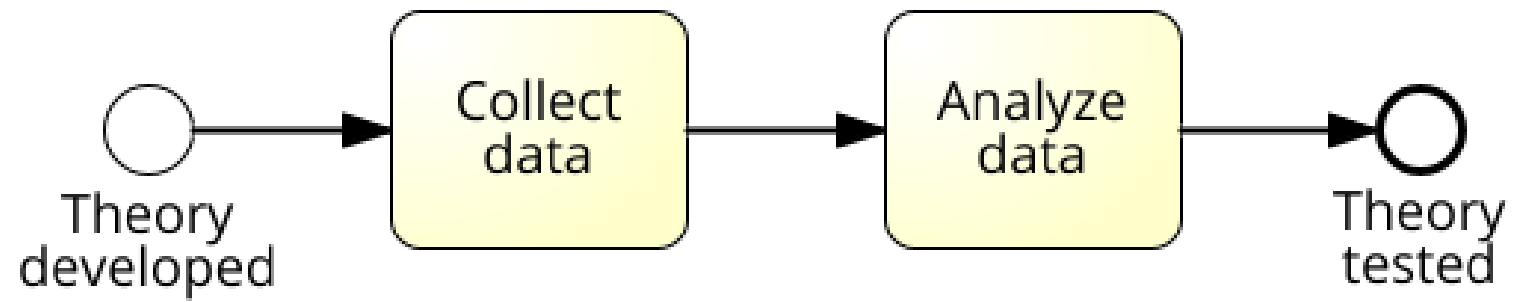
ID	Position	Role in Project A	Role in Project B
R1	CEO	Business Representative	Formal Acceptance
R2	Bid Manager, Sales	Bid Manager	N/A
R3	Business Analyst, Analysis	Business Analyst	N/A
R4	Head of Project Management Office	Project Manager	N/A
R5	Lead of JavaScript Area	Solution Architect	N/A
R6	Quality Assurance (QA) Engineer	N/A	Solution Architect
R7	Head of Sales	N/A	Bid Manager

Step 3: Develop Theory – Analyze Primary Data





*NC = Necessary Condition



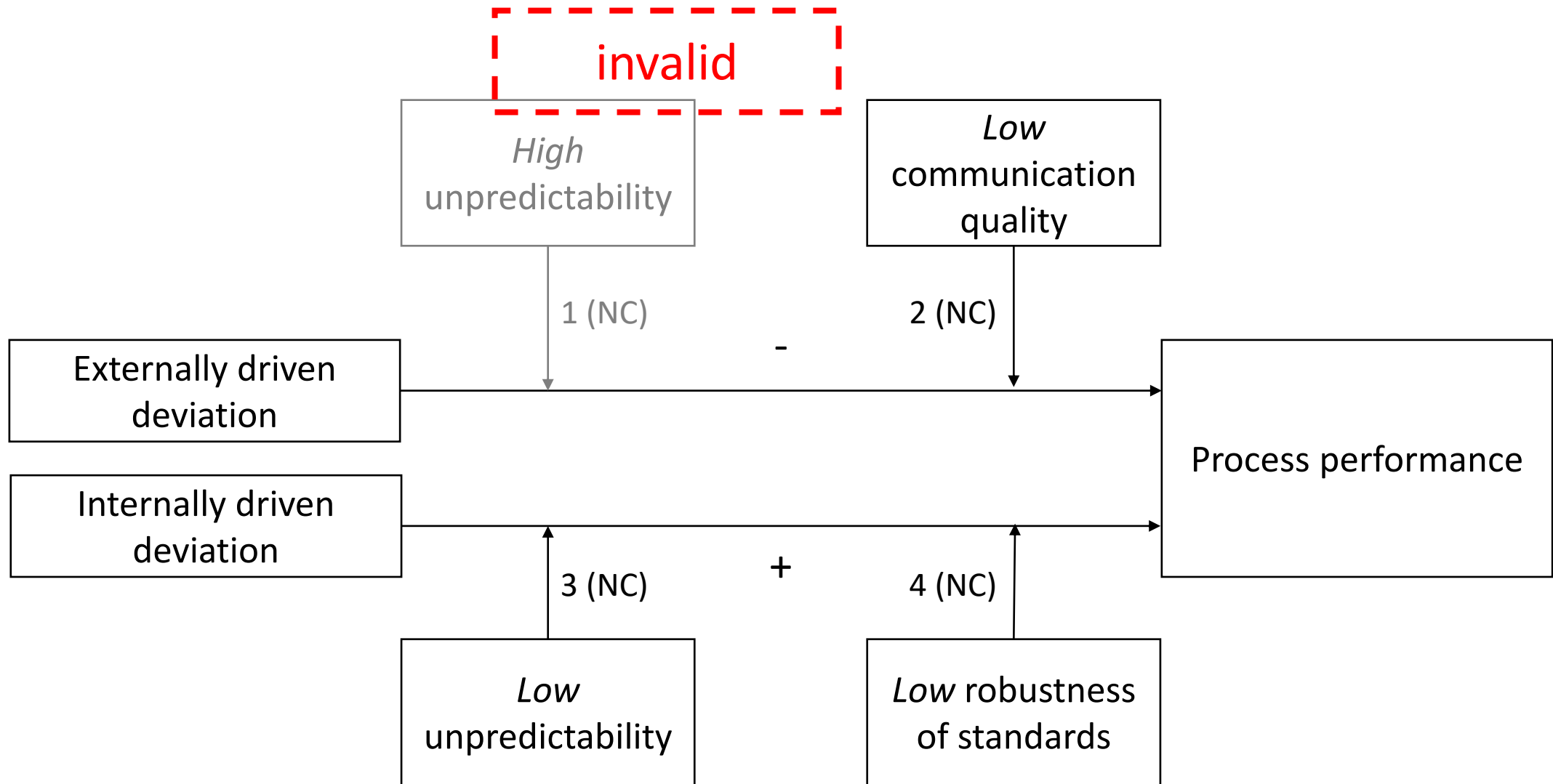
Step 4: Test Theory – Collect Data

ID	Process	Experience (years)	Company size
R1	Sales (in the Company)	10+	Medium
R7	Sales (in the Company)	5+	Medium
E1	Software deployment	10+	Large
E2	Software development	10+	Medium
E3	Supply chain management	5+	Large
E4	Software testing	5	Large

Step 4: Test Theory – Analyze Data

Proposition	R1	R7	E1	E2	E3	E4	Valid?
1	NE	S	NE	NS	NE	NE	No
2	S	S	NE	S	NE	S	Yes
3	S	S	NE	S	S	S	Yes
4	S	S	S	S	S	S	Yes

Note: S – supported, NS – not supported, CS – conditionally supported, NE – no evidence



*NC = Necessary Condition

And now, let's have a look at the example of deductive research.

The current issue and full text archive of this journal is available on Emerald Insight at:
<https://www.emerald.com/insight/1463-7154.htm>

Nexus of knowledge-oriented leadership, knowledge management, innovation and organizational performance in higher education

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Knowledge
management in
HEIs

1731

Received 8 July 2019
Revised 31 December 2019
Accepted 20 January 2020

Source: [Rehman and Iqbal \(2020\)](#)

First, the authors conduct a literature review to describe a set of factors used in the theory.

2. Literature review

2.1 Knowledge-oriented leadership

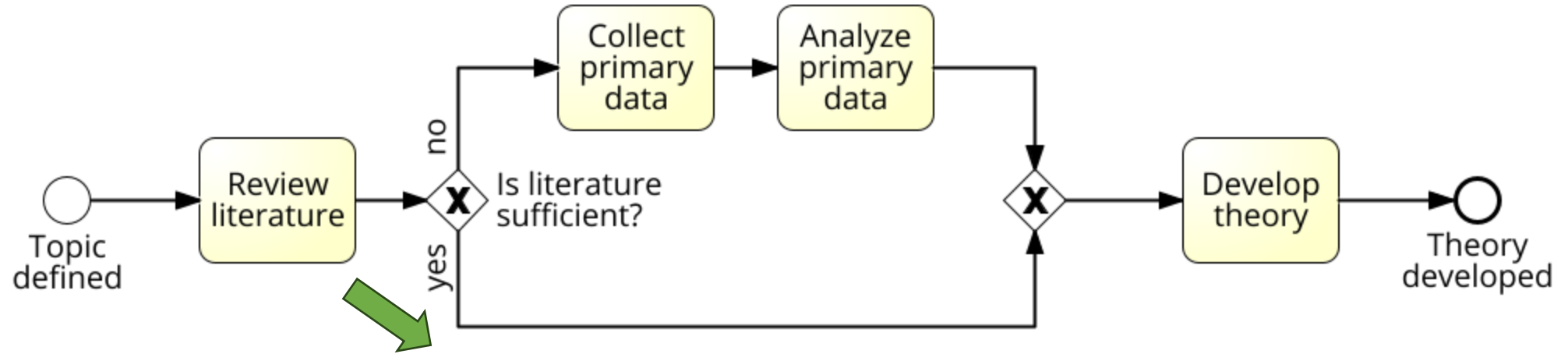
Leadership is a social and goal-oriented process of influencing others to achieve some kinds of outcomes (Fischer *et al.*, 2017) through certain elements such as communication, encouragement and motivation (Ribiere and Sitar, 2003; Von Krogh *et al.*, 2012). However, these elements may be insufficient when the goals and desirable outcomes are related to knowledge (Shariq *et al.*, 2018). The path-goal theory which is primarily a contingency theory of leadership suggests that effectiveness of a leader hinges upon the behaviour exhibited by the leader in a particular situation (Shamim *et al.*, 2019). The role of traditional forms of leadership: transformational and transactional leadership has been widely recognized in achieving several individual and organizational level outcomes. However, scholars such as Ribiere and Sitar (2003), underscore that in knowledge-intensive work environment, organizational leaders need to demonstrate divergent behaviours and lead through knowledge lens. In other words, leaders require a blend of different leadership styles for effective and efficient management of knowledge within the organization (Donate and de Pablo, 2015).

2.2 KM processes

2.3 Innovation

2.4 Organizational performance

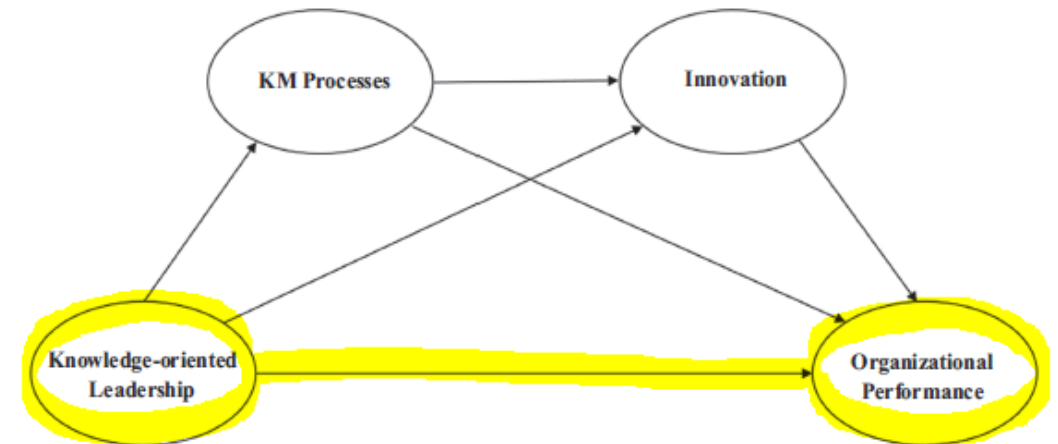
Literature was sufficient

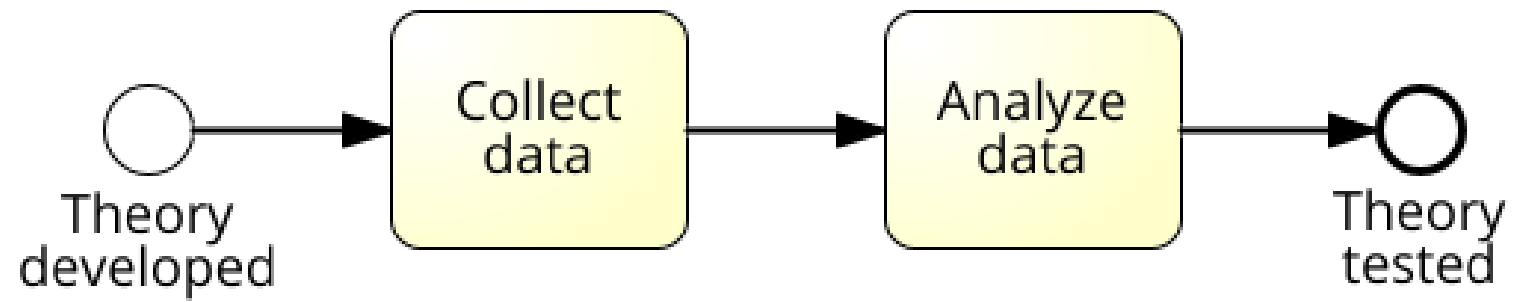


Then, they formulate a set of hypotheses that define relations between the selected factors and provide a rationale for these relations based on the previous studies.

Knowledge-oriented leadership is a specific form of leadership that is composed of transformational and transactional leadership elements (Donate and de Pablo, 2015). This form of leadership is built based on certain knowledge-related behaviours such as promoting learning from experience, facilitating acquisition of external knowledge, rewarding sharing and application of knowledge and creating an environment for teamwork. Although, very little theoretical and empirical evidence is available regarding the association between knowledge-oriented leadership and organizational performance; however, based on the prior discussion on the linkage between transformational and transactional leadership and organizational performance, we theorize that knowledge-oriented leadership behaviours can be crucial for HEIs' performance for several reasons. For instance, knowledge-oriented leadership engenders an environment for teamwork which can elevate trust amongst faculty members. The heightened level of trust may then increase knowledge sharing and improve research productivity (Fullwood and Rowley, 2017; Yasir *et al.*, 2017). Likewise, knowledge-oriented leadership promotes acquisition of knowledge from external resources and rewards its sharing and application which can enhance research collaboration, academic quality, responsiveness and curriculum development (Tan, 2016; Tan and Noor, 2013). Similarly, knowledge-oriented leadership fosters learning culture which facilitates organizations to perform better (Choudhary *et al.*, 2013). Based on these lines of logic, we propose the following hypothesis:

H1. Knowledge-oriented leadership has positive effect on organizational performance.





In order to support the theory with evidence, the authors, first express factors in operational terms. This allows the authors to compile a survey.

4.2 Measures

In this research, all the measurement items were borrowed from prior research and assessed using a 5-point Likert scale ranging from 1 for “strongly disagree” to 5 for “strongly agree”.

4.2.1 Knowledge-oriented leadership. For the measurement of knowledge-oriented leadership, we adopted the instrument developed by [Donate and de Pablo \(2015\)](#). This instrument has been validated by previous studies ([Naqshbandi and Jasimuddin, 2018](#)). However, little modifications were made in the questions to align them with context of the study. The faculty members were asked to rate leadership behaviour of their respective department heads. Sample item includes “My Department head rewards employees who share and apply their knowledge”.

Knowledge-oriented leadership (KOL)

KOL1	The company has developed training programmes (for instance, to develop skills to share knowledge, abilities to understand and use IT tools, etc.) as essential instruments for the attainment of KM objectives
KOL2	The company has developed incentive systems (monetary and non-monetary) to reward teamwork instead of individual incentive systems
...	...
KOL6	In the company, teamwork is a regular practice

Then, the authors conduct survey.

4.2 Sample and data collection

The present study used a sample of 21 public and private sector universities located in Federal Capital territory of Pakistan and recognized by Higher Education Commission of Pakistan. Respondents were the faculty members: Professors, Associate Professors, Assistant Professors and Lecturers. The main rationale behind choosing faculty members for data collection is that they are considered as key knowledge pillars in HEIs and the prominent source of innovation leading towards competitive advantage and organizational performance. To minimize ambiguity and ensure collection of accurate responses, a pilot questionnaire was distributed to the 50 faculty members of the authors' own university. Of all the respondents, 42 of them filled the questionnaire and proposed slight changes in the questions for more clarity. The final questionnaire was refined in line with changes suggested during pilot testing. Each questionnaire was coupled with a cover letter showing purpose of the survey and guaranteeing the anonymity of the participants. Following the convenience sampling technique, the authors distributed 422 survey questionnaires to faculty members of diverse academic disciplines in universities included in the sample. On an average, 20 questionnaires were randomly distributed in each university. The choice of the convenience sampling technique was made due to unknown schedule of faculty members in their respective institutions (Ahmad *et al.*, 2015). A total number of 334 questionnaires were received back indicating a response rate of 79.15%.

Finally, they test hypotheses and approve or refuse them based on a series of indicators.

Total effect	Coefficients	SE	<i>t</i> values	<i>p</i> values
KOL → OP	0.86	0.02	38.55	0.00
<i>Direct effect</i>				
KOL → OP	0.23	0.08	2.82	0.00
KOL → KMP	0.87	0.02	39.92	0.00
KOL → Inno	0.41	0.04	10.72	0.00
KMP → Inno	0.57	0.04	15.73	0.00
KMP → OP	0.32	0.08	4.02	0.00
Inno → OP	0.39	0.10	3.97	0.00
<i>Indirect effect</i>				
KOL → KMP → OP	0.28	0.07	3.96	0.00
KOL → Inno → OP	0.16	0.04	3.50	0.00
KOL → KMP → Inno → OP	0.19	0.05	3.96	0.00
<i>Total indirect effect</i>				
KOL → OP	0.63	0.07	8.46	0.00
Note(s): KOL = knowledge-oriented leadership, KMP = KM processes, Inno = innovation, OP = organizational performance, variance accounted for (VAF) = 0.73 (total indirect effect/total effect)				

Figure 2 portrays structural path coefficients and the detail of total effects, path coefficients/direct effects and indirect effects and their significance are given in Table V. H1 proposed that knowledge-oriented leadership has positive effect on organizational performance. The results reflected in Table V indicate that knowledge-oriented leadership has significant positive effect on organizational performance ($\beta = 0.86, t = 38.55, p < 0.01$). This significant total effect of knowledge-oriented leadership on organizational performance exhibits possibility of mediating effects of KM processes and innovation.

In today's lecture, I've used the following references:

Whetten, D. A. (1989). What Constitutes a Theoretical Contribution? *The Academy of Management Review*, 14(4), 490–495. <https://doi.org/10.2307/258554>

Eisenhardt, K. M. (1989). Building Theories from Case Study Research. *The Academy of Management Review*, 14(4), 532–550. <https://doi.org/10.2307/258557>

Monashev, M., Krčál, M., Mendling, J. (2023). Deviation from Standards and Performance in Knowledge-Intensive Processes: Evidence from the Process of Selling Customized IT Solutions. In: Di Francescomarino, C., Burattin, A., Janiesch, C., Sadiq, S. (eds) Business Process Management. BPM 2023. Lecture Notes in Computer Science, vol 14159. Springer, Cham. https://doi.org/10.1007/978-3-031-41620-0_25

Rehman, U. U., & Iqbal, A. (2020). Nexus of knowledge-oriented leadership, knowledge management, innovation and organizational performance in higher education. *Business Process Management Journal*, 26(1), 1731 – 1758. <https://doi.org/10.1108/bpmj-07-2019-0274>