



BMMB7009
Critical Literature Review
for doctoral students

Week 10 – Mixed-
methods Systematic
Review



QUALITATIVE & QUANTITATIVE

MIXED METHODS

Agenda

- I. Re-cap of last week
- II. Mixed-methods Systematic Review
- III.III. In-class exercise
- IV. Wrap-up
- V. Sharing
- VI. Q&A

A circular frame containing a pair of hands holding a white rectangular sign. The sign has the word "RECAP" written on it in bold, black, sans-serif capital letters. The hands are positioned on either side of the sign, with fingers slightly curled. The background is a solid, light blue color.

RECAP

Identification of Research Gap : Gap Analysis (II)



Mixed-methods Systematic Review

Mixed-methods Systematic Review

- The field of mixed-methods systematic reviews is still emergent and, although there is a growing literature on reviews that include both quantitative and qualitative data synthesis, included data are rarely combined in a single synthesis or united in a secondary 'final' synthesis. (Lizarondo, et al., 2020;)

Mixed-methods Systematic Review

- You can **integrate** data **at the Question, Search, Appraisal, Synthesis and Analysis** stages. Alternatively, you could **integrate two reviews**, once completed, **within a third, integrative review**.
- Approaches to integration require an overarching structure; a **matrix**, a **graph**, a **logic model**, a **conceptual framework** or an **interwoven approach**.
- One alternative to integrating quantitative and qualitative reviews within a third synthesis is to use a mixed-method methodology such as **critical interpretive synthesis**, **meta-narrative** or **realist synthesis**.

Mixed-methods Systematic Review may:

- Analyse **unrelated quantitative and qualitative studies** separately and then bring both together in an integrative synthesis, or
- Include only **related quantitative and qualitative studies**, that share a study context and bring those two types of study together
- Include primary studies where **quantitative and qualitative data are reported in a single study report**.
- Integrate **quantitative, qualitative and mixed-method data from primary studies**.

Undertaking a Mixed-methods Systematic Review (1 of 2)

- In a convergent approach, you conduct the **two review components (ie, quantitative and qualitative)** separately before integrating the different data and methods of analysis as a third and final step (Pluye & Hong, 2014).
- In a sequential approach, you perform one sub-review first and then the results of this review shape the subsequent sub-review of the other type of data (Pluye & Hong, 2014). (eg, review the effects of an intervention and then look at whether the intervention is acceptable to its intended audience; ie, quantitative followed by qualitative).
- Alternatively, you could conduct a qualitative synthesis to identify what features an intervention users prefer and then undertake an effectiveness review limited to interventions that include these desired features (qualitative-quantitative).

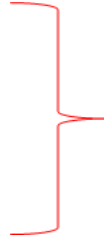
Undertaking a Mixed-methods Systematic Review

(2 of 2)

- Some use notation to indicate which review is dominant and how they are sequenced (Heyvaert et al, 2013). So, QUAL-Quant is a review where the Qualitative component (as indicated by the capitals) is the driver and where the qualitative precedes the quantitative (as indicated by the sequence).
- You should ensure that you describe each review transparently and communicate how both review components are brought together (Pluye and Hong, 2014).

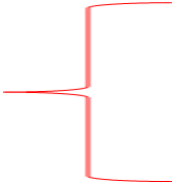
The overall picture [(Lizarondo et al, 2020) versus (QESISAES) framework)] (1 of 2)

1. Constructing Statement of Overall Goal/Research Problem
2. Scoping the Review
3. Formulating the Review Question(s)
4. Deciding on the Review Design
5. Determining Initial Criteria for Inclusion/ Exclusion
6. Conducting an Extensive Literature Search
7. Selecting Final Articles for Inclusion



Question

Eligibility



Source

Identification

Selection

Appraisal

Extract

Synthesis

The overall picture [(Lizarondo et al, 2020) versus (QESISAES) framework)] (2 of 2)

1. Assessing Study Quality
2. Extracting the Data
3. Synthesizing and Integrating the Studies
4. Interpreting the Evidence
5. Presenting the Results

Key questions when conducting a Mixed-methods Systematic Review (1 of 2)

- 1. How will I plan and sequence** quantitative and qualitative review components of the review? In parallel? Qualitative first and then quantitative? Quantitative and then qualitative? Does it matter?
- 2. What types of quantitative and qualitative studies** will I include as data sources? Separate, unrelated quantitative and qualitative studies? Separate but related quantitative and qualitative studies? Integrated mixed methods studies? All of the above?
- 3. At what stages will I integrate** the quantitative and qualitative components of the review? At a single stage? At two or more stages within the review? Throughout the review?

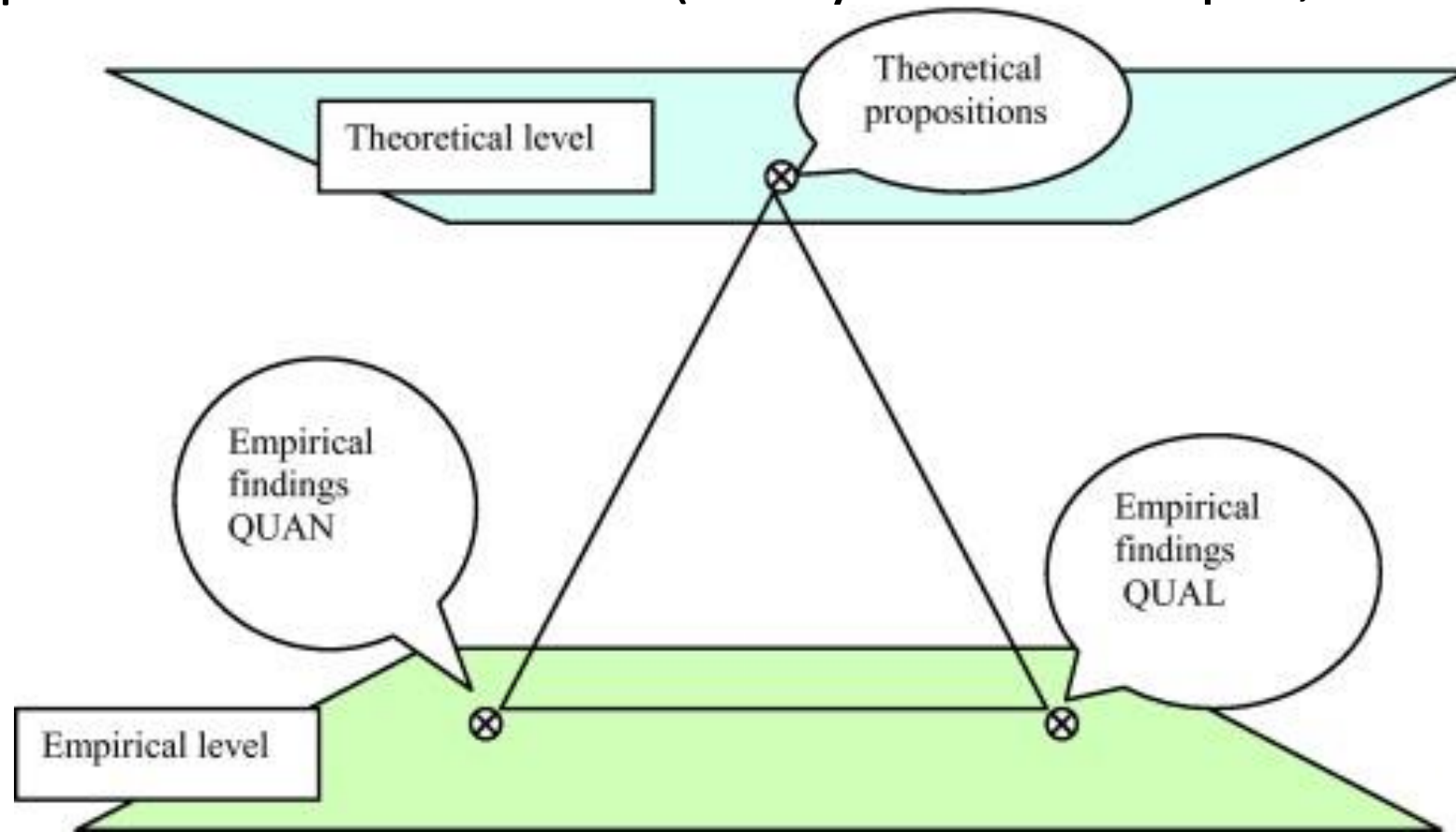
Key questions when conducting a Mixed-methods Systematic Review (2 of 2)

4. **How will I integrate** the quantitative and qualitative components of the review? By using similar processes for all components? By handling all data qualitatively? By handling all data quantitatively? By using a structure to integrate both types of data? By using a method to handle the components equally?
5. **How will I present and report the review** and its components? As stand-alone sections? As separate sections with an integrative section? Thematically? Sequentially, according to stages in a process? Using Narrative? Tables? Graphics? Another alternative?

Four overall strategies for integrating qualitative and quantitative data (Mays and Pope, 2020):

- Integrating at the review level
- Integrating using a common structure, framework or model
- Integrating through 'transformation' of the data
- Using an integrative method

Four overall strategies for integrating qualitative and quantitative data (Mays and Pope, 2020):

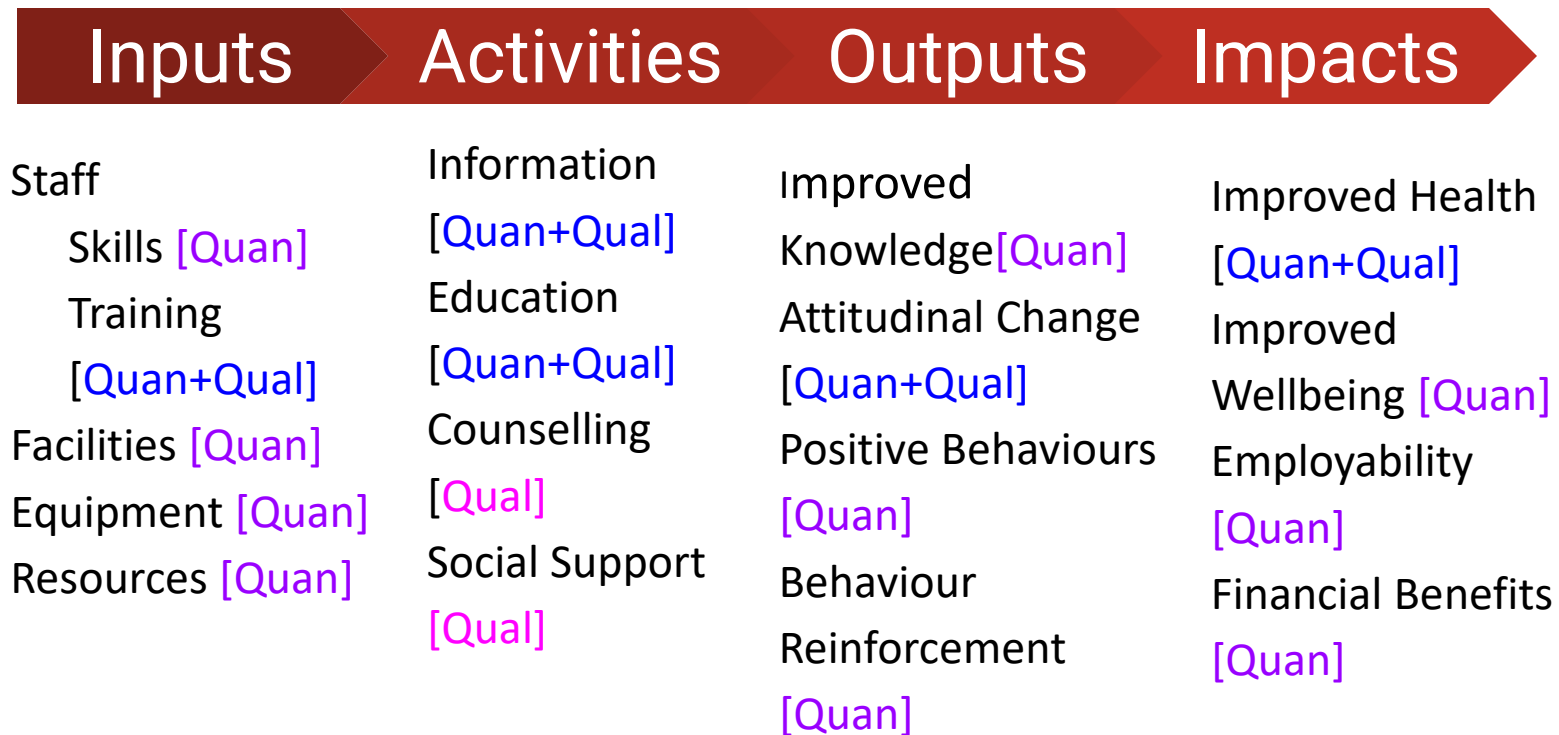


Integrating using a common structure, framework or model:

- *The Matrix (Quant [Outcomes] vs. Qual [Themes])*
 - E.g. Outcome #1 (e.g. pain measured quantitatively) maps to Theme A (e.g. pain described qualitatively) and also to Theme C (e.g. irritation described qualitatively)

	Theme A	Theme B	Theme C	Theme D
Outcome #1	X		X	
Outcome #2		X		
Outcome #3				X
Outcome #4		X		

Integrating using a common structure, framework or model: e.g. the logic model



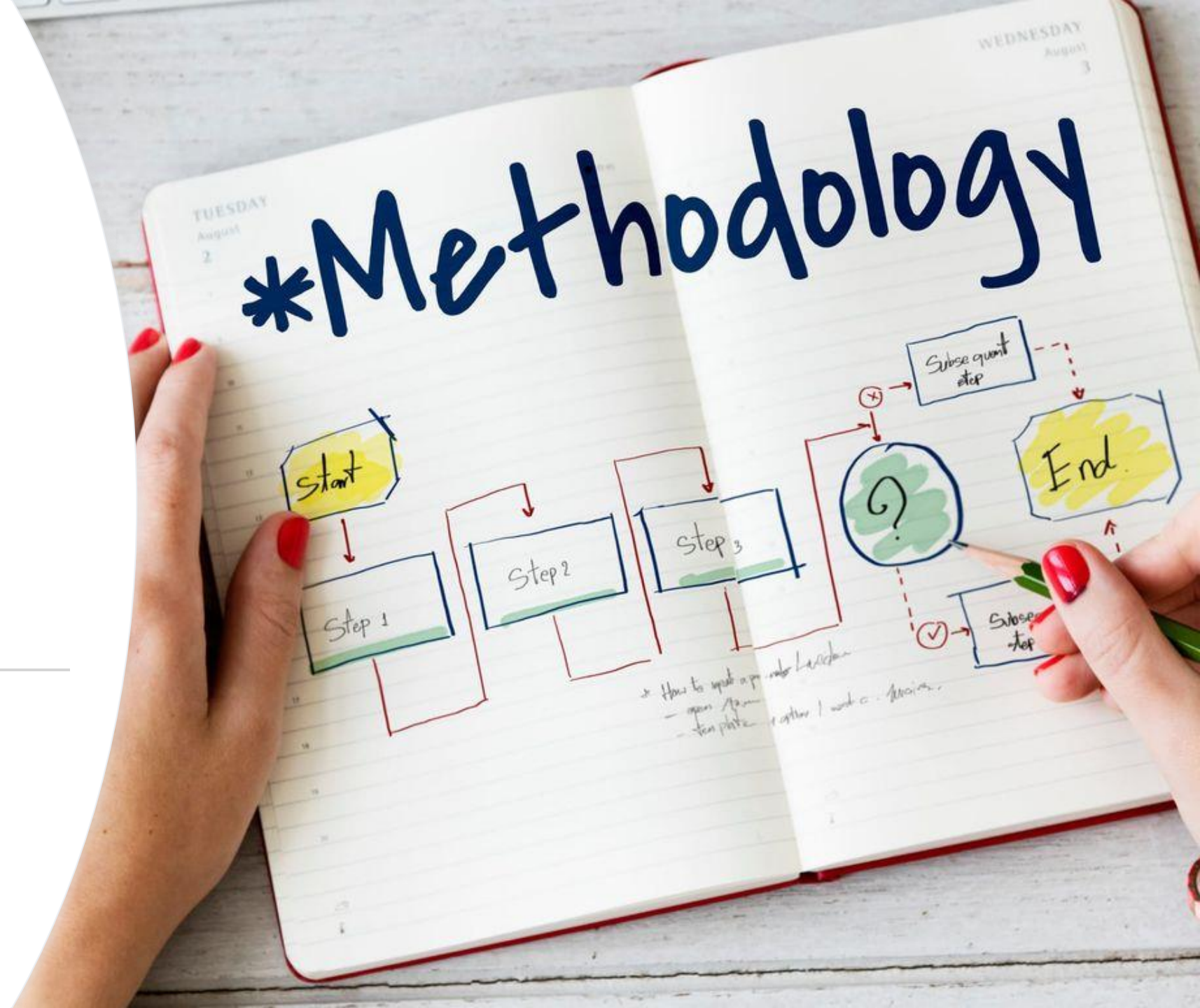
“Take homes” (1 of 2)

- Combining quantitative and qualitative data within the same synthesis is more challenging than conducting single reviews but may add valuable insights.
- The least complex approach is to conduct separate reviews for quantitative and qualitative data and then integrate them in a third synthesis.
- Unless you use a methodology that handles both quantitative and qualitative data equally well, you must “bridge” the two types of data; eg, a matrix, a graph, a structural or process-based logic model, a conceptual framework or an interwoven approach.

“Take homes” (2 of 2)

- Methodologies that handle both quantitative and qualitative data include critical interpretive synthesis, meta-narrative or realist synthesis. However, these are not interchangeable; each method targets a particular research need.

Literature Review as a Methodology



Debate

Topic : Is WhatsApp communication a Workplace Productivity Facilitator ?

- Please read at least 2 journals per student to form your argument.
- Each student is required to share the point
- No. of group(s) : 3 groups
- Discussion/preparation time : 30 mins
- Debate : max. 30 mins



Guideline

1. Please structure your discussion through the theoretical lens such as theories, findings and/or implications
2. Need to address the questions posted by other teams
3. Need to react to findings/argument(s) shared by other teams
4. Please state your conclusion on the said topic



Wrap-up

- **How to Write a Literature Review: 3 Minute Step-by-step Guide**
(3:04 mins)

<https://www.youtube.com/watch?v=zIYC6zG265E>

- **4 TIPS for Writing a Literature Review's Intro, Body & Conclusion** (4:29 mins)

• <https://www.youtube.com/watch?v=kW6Uzn-8uMI>

Wrap-up

What we have learned.....

- Overview
- Type of literature reviews as methodology
- Types of Gaps
- Gap Analysis

	Date	Topic	Theme
1	02/06/2026	Topic 1 – Module Overview	Business and management
2	09/06/2026	Topic 2 – Advanced and systematic literature search skills	
3	16/06/2026	Topic 3 - Critical thinking and discussing qualitative data	
4	23/06/2026	Topic 4 - Methods for analysing large bodies of literature Topic 5 - Identifying gaps in the literature	
5	30/06/2026	Topic 5 - Identifying gaps in the literature ORCID Webinar (11:00-12:00)	
6	07/07/2026	Topic 6 - Credible sources of information	
		A 3-page proposal submission	
7	14/07/2026	One-to-one consultation	
8	21/07/2026 (ONLINE)	Topic 7 - How to research and present qualitative data and empirical evidence Rehearsal on students' presentation	
9	28/07/2026 (ONLINE)	For those students who do not attend the conference (In-class activity)	
		Summer Break 1st -31st August 2026	
10	01/09/2026	Topic 9 How to write a comprehensive literature review	
11	08/09/2026	Topic 10 How to write a comprehensive literature review	
12	15/09/2026	Wrap-up session & Q&A	
		Assignment due : 30th Sep 2026	

References:

- Chapter 9 of the Sage Book: **Synthesising and analysing mixed methods data**. In: *Systematic Approaches to a Successful Literature Review*, 3rd ed, 2021.
- You might also find the following useful:
Pluye P, Hong QN. Combining the power of stories and the power of numbers: mixed methods research and mixed studies reviews. *Annual Review of Public Health*. 2014 Mar 18;35:29-45.

References:

- Azeez & Elegunde (2022) *Research Gaps in Management Sciences: An X-Ray of Literature*. Available from: https://www.researchgate.net/publication/361024833_Research_Gaps_in_Management_Sciences_An_X-Ray_of_Literature [accessed Mar 18 2025].
- Azorín, J. M., & Cameron, R. (2010). The application of mixed methods in organisational research: A literature review. *Electronic journal of business research methods*, 8(2), pp95-105.
- Mineraud, J., Mazhelis, O., Su, X., & Tarkoma, S. (2016). A gap analysis of Internet-of-Things platforms. *Computer Communications*, 89, 5-16.
<https://doi.org/10.1016/j.comcom.2016.03.015>
- https://www.researchgate.net/publication/361024833_Research_Gaps_in_Management_Sciences_An_X-Ray_of_Literature [accessed Mar 18 2025].

- Lizarondo, L., Stern, C., Carrier, J., Godfrey, C., Rieger, K., Salmond, S., Apostolo, J., Kirkpatrick, P., & Loveday, H. (2020). Methodological guidance for the conduct of mixed methods systematic reviews. *JBIM Evidence Synthesis*, 18(10), 2118–2126. doi.org



Warm Reminder

Assignment
Submission due
on **30th Sep 2026**





Good luck !
