Boosting Research for a Smart and Carbon Neutral Built Environment with Digital Twins – **SmartWins**



Research Publications Synthesis: Key Principles and Techniques

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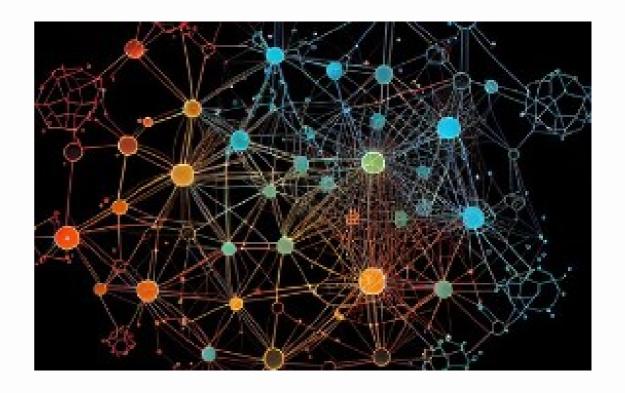
CERTH SmartWins Training Sessions: Day1
23 April 2024
Thessaloniki





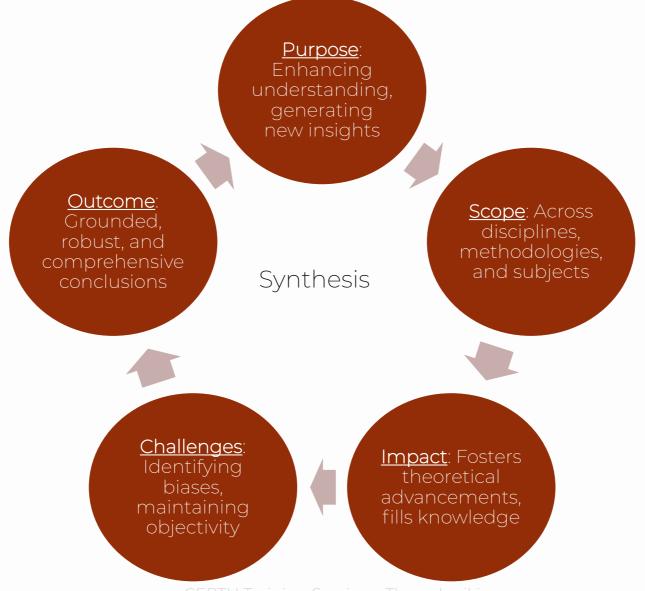
Overview

- Synthesizing simply means combining
- Synthesis integrates information from multiple sources, which shows that you have done the necessary research to engage with a topic more fully





Synthesis in Research Publications





Significance of Synthesis in Research

Impact:
Drives scholarly
discourse,
influences policy and practice.

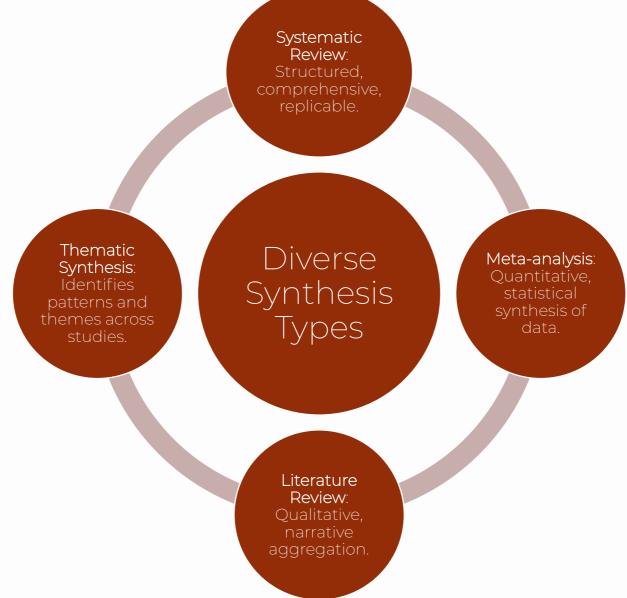
<u>Innovation</u>: Proposes new theories, suggests further research areas.

<u>Development</u>: Identifies gaps, contrasts theories, and links disparate studies

Synthesis establishes a solid base for comprehensive understanding



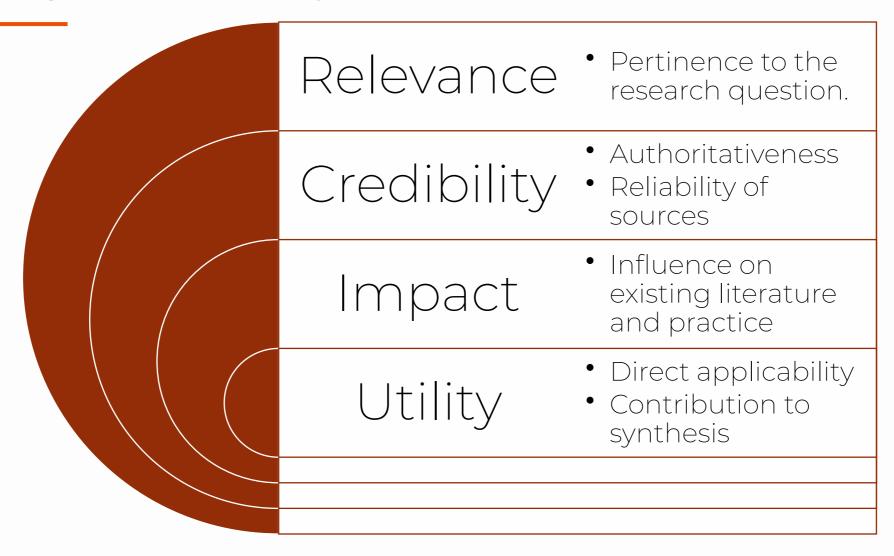
Types of Synthesis in Research





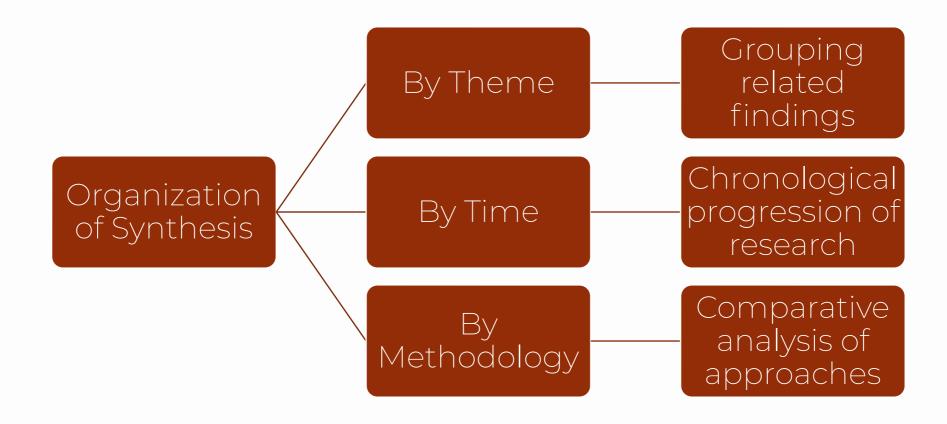
Evaluating Sources for Synthesis

Narrowing down from general to specific criteria





Structuring a Synthesis





Synthesis Techniques

Charting
existing
existing
literature to

Systematically gathering data from selected studies for comparison

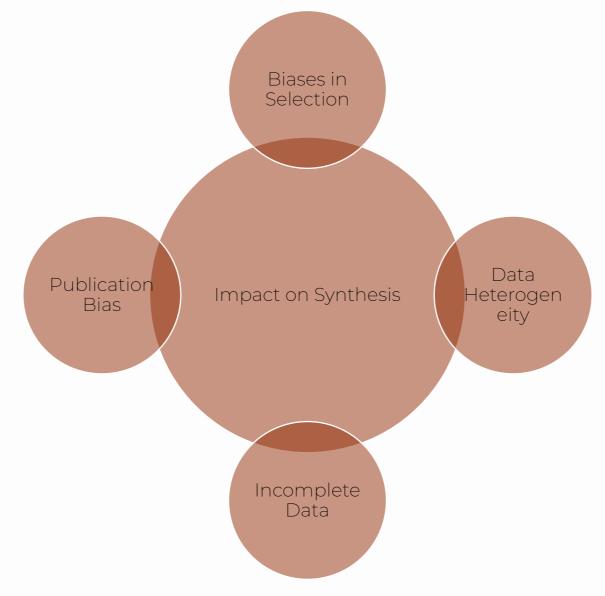
Assessing the quality and quality and relevance of studies to ensure robustness

Employing statistical or thematic analysis methods to findings

Merging insights to form a unified theoretical or empirical narrative

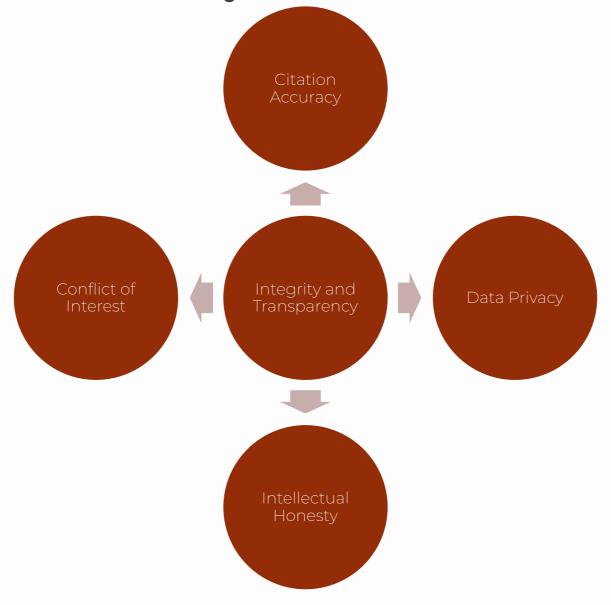


Challenges in Research Synthesis





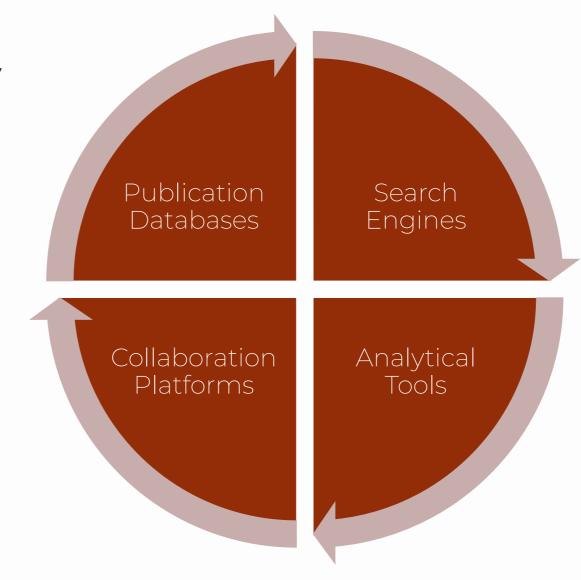
Ethical Considerations in Synthesis





The Role of Technology in Synthesis

Cycle of Technology





Impact of Synthesis on Academic Fields

Foundation

 Synthesis consolidates fragmented research, establishing a strong base.

Advancement

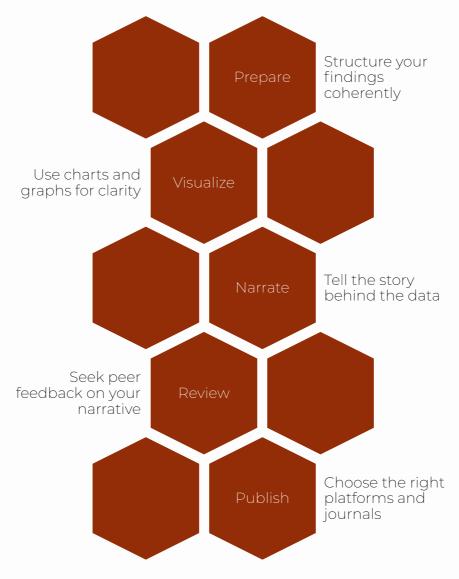
• Drives development of new theories and models in academic disciplines.

Transformation

• Influences policy-making, professional practice, and societal norms



Communicating Synthesis Findings



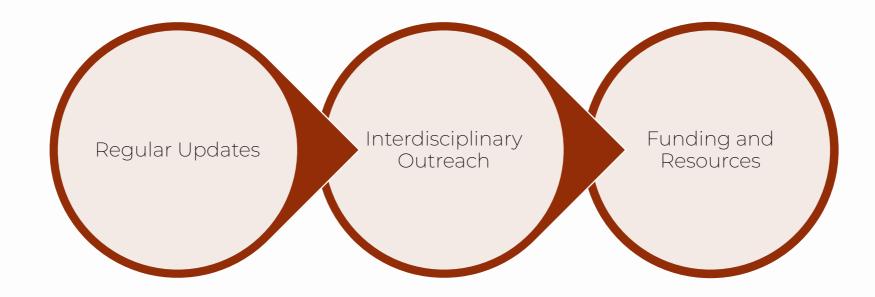


Future Trends in Research Synthesis

- Interdisciplinary Approaches: There is an increase in collaboration across diverse fields.
- Machine Learning: Al becomes an essential tool for automated data analysis.
- Open Access: Allows an expanding reach and engagement through freely accessible research



Sustaining Research Synthesis





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Project Partners













