Synthesis 1: **Business process analytics: a dedicated methodology through a case study**

- Introduction of dedicated Business Process Analysis (BPA) methodology.
- Use of advanced analysis techniques to identify inefficiencies and optimize processes.
- In modern organizational management, BPA is becoming increasingly important
- Key points: Dedicated methodology, data-driven insights, practical case study.

Synthesis 2: **Fast and accurate quan-ta-ve business process analysis using feature complete queueing models**

- Introduction of feature-complete queueing models for quantitative business process analysis.
- Overcomes the limitations of traditional BPA techniques.
- Use of queueing theory for complete process representation.
- Key facts: Full-featured models, fast and accurate analysis, decision support.

Synthesis 3: **Knowledge Graph-Based Explainable Artificial Intelligence for Business Process Analysis**

- Introduction of explanatory AI based on knowledge graphs for business process analysis.
- Integration of knowledge graphs for clear process understanding.
- Focus on the explicability of AI in process analysis.
- Key points: Knowledge graphs, explanatory AI, interpretable analysis.

Synthesis 4: **TRENDS IN BUSINESS PROCESS ANALYSIS From Verification to Process Mining**

- Evolution of traditional verification methodologies towards the adoption of process mining technology.
- Data-driven approaches and real-time analysis.
- Increasing integration with emerging technologies such as AI and process automation.
- Continuous process improvement is identified as important.
- Key points: Data-driven approaches, integration of emerging technologies.

General Summary : Business process analysis (BPA) has become essential for ensuring organizational effectiveness, with several new approaches proposed in the articles reviewed. Researchers such as Delias and Matsatsinis propose a dedicated methodology for BPA, highlighting a systematic approach using advanced analysis techniques to reveal process inefficiencies and identify opportunities for improvement. In addition, Peters, Kerner, Dijkman, Adan and Grefen present comprehensive queuing models, offering a global representation of business processes, improving decision-making thanks to fast, accurate quantitative analysis. Füßl, Nissen, and Heringklee bring an explanatory artificial intelligence dimension based on knowledge graphs (KG-XAI), integrating transparency into the analysis of complex processes. Finally, van der Aalst focuses on major trends, noting the transition from traditional verification to the growing adoption of process mining, the need for real-time data-driven approaches, and increasing integration with artificial intelligence and process

automation. The use of data, real-time analysis and the integration of AI and automation are identified as key trends, all converging to a common goal: the continuous improvement of processes to increase operational efficiency and enable rapid adaptation to changes in the business environment.