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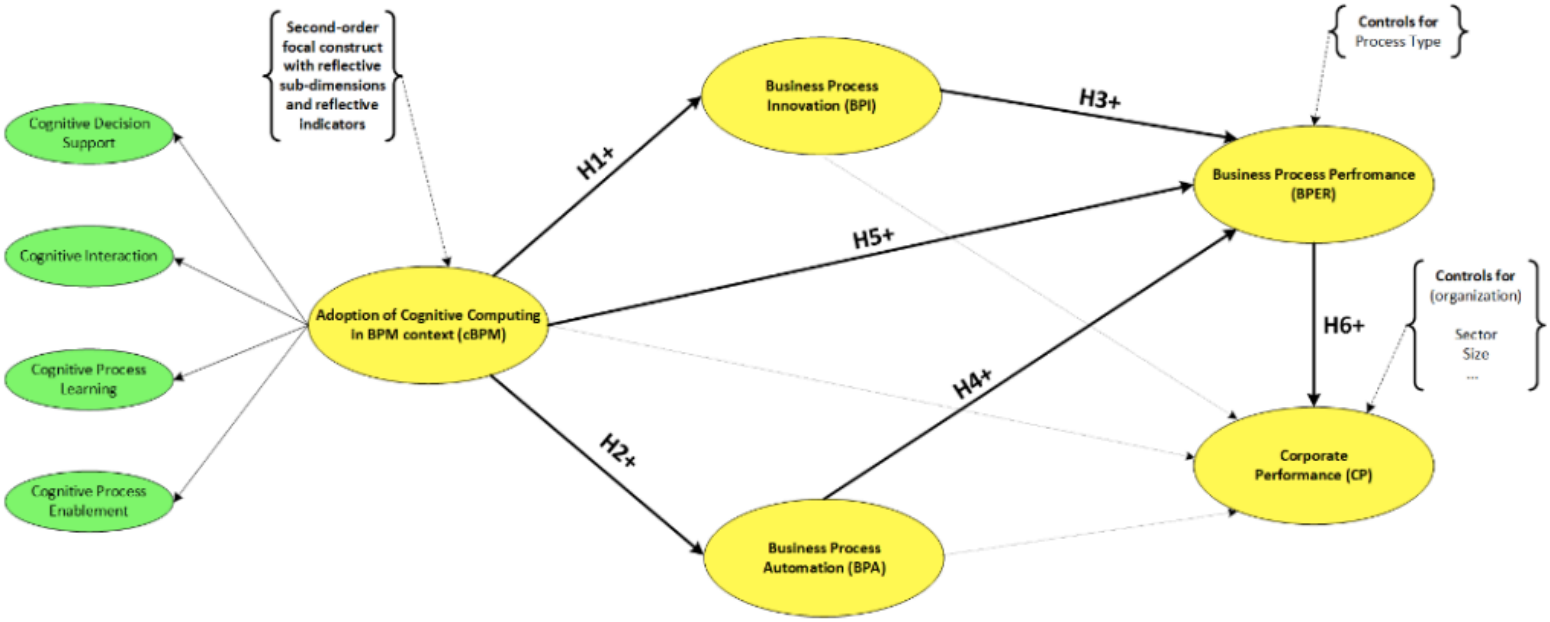
Summary of the document : Cognitive BPM: Business Process Automation and Innovation with Artificial Intelligence

Cognitive computing, which focuses on autonomous reasoning and learning, aims to automate business processes by extracting data and training systems to respond to situations. The study in this paper examines the extent to which cognitive business process management (CBPM) improves performance, taking into account the mediating roles of automation and innovation. Using a theoretical framework based on the Resource-Based View (RBV), the study addresses the lack of literature through an empirical examination using a survey design. The results will contribute to research on the business value of IT, providing insights into the strategic importance of CBPM for improving business performance through automation and innovation. Managers can expect valuable insights into the use of cognitive computing and AI technologies to deliver performance gains in day-to-day business operations.

Several theories and hypotheses are formulated on the subject of AI, such as:

- The cognitive approach using AI to ***manage dynamic processes***, leading to the concept of ***CBPM***.
- CC in BPM, which exploits the ***automation and innovation of cognitive computing and AI technologies,*** supported by various researches on the business value of computing.
- Also of note is the ***importance of automation for BPM responsiveness***, with AI techniques serving as key drivers, indicating that CC improves process automation.
- And ***Cognitive Process Enablement***, which improves business processes by integrating the Plan-Do-Learn cycle, suggesting that BPA and BPI mediate between CBPM and CP, in line with previous BPM research.



Process:

- The research will use a mixed-methods approach, beginning with in-depth semi-structured interviews with experts for exploratory research.
- Two new measures will be developed: CBPM adoption (a second order construct with reflective indicators) and GAP (first order constructs with reflective indicators).
- The sub-dimensions of the CBPM adoption construct will be based on the four CBPM pillars and AI techniques classified by CC features. A content validity assessment will follow, involving industry experts and academics.
- The questionnaire developed, incorporating CBPM, BPA, BPI, BPerf, and CP measures, will be used in the main survey of EU companies using BPM/iBPM software with embedded AI technology. A sample size of at least 367 has been defined.
- To control for non-response bias and common method bias, the data analysis will use SEM and Hayes mediation analysis to test a sequential multi-mediation model.
- The groundwork includes an SLR, research questions, hypotheses, and a theoretical conceptual model. An analysis of AI techniques and BPM software is underway.
- Open points and problems identified include the validation of the proposed sequential multi-mediation model, the development of measures/constructs, and the definition of eligible participants. The research will be EU-wide, requiring translation of scales and access to participants.

In conclusion, the study on Business Process Automation and Innovation with Artificial Intelligence (AI) opens up exciting prospects for the business world. Drawing on cognitive computing and AI, this research explores the potential of CBPM to radically transform organisational performance. The Resource-Based View (RBV) theoretical approach provides a robust framework for assessing the impact of automation and innovation in business processes.

Thanks to a rigorous methodology, including in-depth interviews with experts and an empirical survey, this study helps to fill the gap in the literature on the subject. The expected results will provide managers with crucial information on the strategic use of CBPM to stimulate operational efficiency and foster innovation.

The expected developments in CBPM and BPA metrics, as well as the rigorous evaluation of the data using methods such as SEM and Hayes mediation analysis, will lead to a better understanding of the role of AI in improving business performance. Ultimately, this study paves the way for more widespread and effective use of AI in day-to-day operations, propelling businesses towards a future of sustainable growth and increased competitiveness.