BPM Research is Finally Maturing (Right?)

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Abstract: The Business Process Management (BPM) field is characterized by its interdisciplinary nature and small close-knit community. While these aspects foster collaboration and intellectual diversity, they also pose challenges related to visibility and positioning within the broader academic landscape. This opinion piece, accompanying an EMISA 2025 keynote, reflects on recent developments that are helping to strengthen and future-proof BPM research. It highlights three promising directions: (1) initiatives that connect BPM to other research communities and break disciplinary silos, (2) growing attention to sound and transparent research methodology, and (3) community-building efforts that foster cohesion and support. By drawing attention to these trends, the article aims to encourage broader engagement and recognize the individuals and initiatives driving positive change.

Keywords: Business Process Management, Research Community, Research Methodology

1 Introduction

Business Process Management (BPM) research focuses on the analysis, design, implementation, execution, monitoring, and improvement of business processes. As an inherently interdisciplinary field, BPM integrates perspectives from computer science, information systems, management, and organizational studies to support structured process thinking and operational optimization [Du13].

The BPM field stands out in several respects. It spans a wide range of research types, from formal foundations and engineering approaches to empirical and socio-technical studies. At the same time, the BPM community is relatively small compared to neighboring fields like software engineering, machine learning, and information systems. These characteristics bring both strengths and challenges. On the positive side, BPM's research diversity fosters collaboration and mutual understanding across disciplinary boundaries. The size of the community also makes it easier to form connections, contributing to a collegial atmosphere—something clearly felt at conferences. However, the field's modest size and inward focus can lead to perceptions of BPM as niche and inward-looking. The broad methodological landscape can also leave researchers—especially those early in their careers—uncertain about where they fit or how their work aligns in the broader academic landscape. These uncertainties can become particularly pressing when applying for grants or academic positions, since such applications are commonly assessed by members of different communities.

Therefore, in this opinion article, I would like to make the case that—as a community—we should embrace our strengths (interdisciplinarity and collaboration) while addressing

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the risks that come with our size and focus. We must continue raising the quality and competitiveness of BPM research and strengthen our ties with neighboring scientific communities.

In this article (and the corresponding keynote), I aim to highlight promising developments already pointing in the right direction—namely, increasing outreach and collaboration with other fields, greater attention to research methodology, and efforts to develop our community. I hope to raise awareness of these initiatives and encourage others to engage with them, while also recognizing the researchers behind them. Many of these efforts extend beyond traditional academic KPIs and require dedication that may not yield immediate rewards but offers long-term benefits to the field.

Though the article focuses primarily on engineering-oriented BPM research—my own area of expertise—I believe many of the points raised are relevant across the field and even to neighboring disciplines. This reflection is shaped by my own experiences, particularly my recent path to tenure, and an awareness that a new generation of researchers is now stepping into senior roles—often at the forefront of the very changes I aim to spotlight.

2 Community Outreach & Expansion

The BPM research field is sometimes regarded as inward-looking, with researchers writing papers for their community, while only rarely building on or interacting with other communities. However, I am glad to see that this is changing, among others through:

Lifting developments from other communities. I am pleased to see successful examples where researchers recognized the potential of taking concepts and techniques from other communities and lifting these to BPM use cases. In this manner, we avoid reinventing the wheel, but rather discovering new possibilities by looking at what is already out there. While there are plenty of examples of this, a major one in my view was the recognition of the potential of using species estimation techniques to assess event logs used in process mining [KRW23]; an elegant idea that was celebrated with a best paper award at ICPM'23 and opened up a whole new stream of work.

Cross-community collaboration and outreach. The BPM community has become increasingly engaged in cross-community collaboration, teaming up with researchers from fields such as operations research, information systems, software engineering, and visual analytics. This trend not only enriches our research by integrating diverse perspectives, but also enhances the visibility and impact of our work. A related form of outreach involves cross-community dissemination in top-ranked venues (TSE, VLDB, AAAI/IJCAI, IS journals, etc.), which I observe more and more. Such efforts have the potential to attract a broader audience to our work, whereas it surely benefits individual researchers, since the quality of such venues is broadly recognized.

Focus on industry collaboration and societal impact. BPM researchers should embrace the relevance of our topics from an economic and societal perspective. This can provide a wealth of opportunities for us, such as through industry collaborations and the ability to attract third-party funding (possibly with industry support). I see plenty of highly interesting efforts in this regard, as well as clear interest from industry to invest in our work.

3 Attention for Methodology

A second important trend that I observe in (engineering) BPM research is that more attention is being drawn to how to conduct research. Whereas methodology is a first-class citizen in scientific education and of papers in many fields, methodological concerns are often left implicit in engineer-style research (not just BPM). As a result, especially new researchers may not be aware of the methodological considerations that they should consider in their work—or even that BPM research actually is supposed to follow a methodology.

Methodology of algorithm engineering. A major step to overcome this—in my view—is the attention that is drawn to the Methodology of Algorithm Engineering by Mendling et al. [Me23]. At its core, algorithm[2] engineering recognizes that the research that we conduct (1) starts from a problem that is (2) translated into an algorithmic task, for which an algorithm is first (3) designed and then (4) implemented and evaluated.

I believe that just this *ontological perspective* on research can already be eye-opening, since it makes several key concepts explicit and can avoid misunderstandings that I, unfortunately, frequently observe. This includes the importance of distinguishing an algorithmic design (i.e., a concept) from its implementation, and that a paper should describe the design, its justification, and take-aways for readers, rather than serve as a technical report. Furthermore, it clarifies the need to consider that an evaluation should assess how well a designed and implemented algorithm tackles a real-world problem, rather than just blindly focusing on (incremental) improvements on measures such as F1-scores [Ho95].

Evaluation practices. Given the crucial nature of evaluations in our research, I am pleased to see several promising trends:

- **Evaluation methodology:** Next to attention for the general research methodology, specific efforts are also emerging to establish guidelines and highlight important considerations on how to conduct evaluations in the area. A recent example of this is the work by Rehse et al. [Re24b] focusing in-depth on considerations in the evaluation of process discovery algorithms.
- **Benchmarking datasets:** Access to suitable data is often a problem in BPM research, given that business data is not as publicly available as the data used in fields such as computer vision or natural language processing. Nevertheless, there are important efforts made to provide datasets to the community, which allows us to evaluate

[2] Note that the term *algorithm* is broad and includes, e.g., conceptual approaches and machine learning pipelines.

and also compare contributions in an appropriate manner. A key example are the well-known real-world event logs such as those stemming from the BPI challenges.[3] Recently, also more task-specific benchmarking datasets are being proposed, such as for the detection of concept drift in process mining [Ad23; KA25], LLM-based process mining [BKA24; Re24a], and text-to-process model extraction [Be22; Ko24].

- **User studies:** A considerable amount of BPM research focuses on the development of approaches that aim to provide insights to users (e.g., analysts). Therefore, I see it as highly positive that seemingly more approaches are evaluated through empirical studies with users. Although such studies take more effort than just computing numbers like precision and recall, it means that contributions are being assessed in a way that better fits the type of problems they are addressing). A great development in this regard is the establishment of the Empirical Research in Process Mining (ERPM) workshop, which aims to draw attention to exactly such studies (and other empirical works).[4]
- **Reproducibility initiatives:** Finally, venues are placing more emphasis on reproducibility of results (see Section 4), where the availability of source code and datasets is becoming a requirement (upon submission, not acceptance!), rather than a nice-to-have.

Upcoming book on methodology. Finally, in this context, I want to highlight the ongoing effort of a large number of BPM researchers who are contributing to a book on "Research Methods in BPM", led by Sander Leemans, Jana Rehse, and Jan-Martijn van der Werf.

4 Community Initiatives

Finally, I see important efforts being made to further develop the BPM community and support its researchers. These efforts include, but are not limited to the following initiatives:

New venues. Two new venues for BPM-related research have been established in the past years, with the International Conference on Process Mining (ICPM), around since 2019, and the more-recently established Process Science journal. Although, such venues can increase the perception that BPM research takes place in its own community, I also see clear benefits here in terms of consolidation efforts, since these have the chance to become flagship venues, for which quality control can maintained and we avoid that BPM research is spread too thin over numerous lower-ranked venues. Through such consolidation, we can hopefully push venues like ICPM to a higher ranking (currently ranked B in CORE, with potential to grow[5]) and, through this, also attract more outside scholars.

[3] It is important to note here that our community should not be too dependent on this relatively small set of event logs, which cannot be expected to be representative for the broad range of processes that exist in practice.

[4] https://erpm-workshop.github.io/homepage/

[5] https://portal.core.edu.au/core/media/2023/justification/2307_ICPM.pdf

Venue maturity. With respect to quality-control, I see important developments towards (necessary) maturity in several of our key conferences. Specifically, I appreciate that both the BPM and ICPM conferences are emphasizing the importance of *open-science principles*, with BPM even awarding "artifacts available" badges. Other steps towards maturity are the introduction of double-blind review at BPM (since 2024) and of page limits excluding references at CAISE (since 2025), which I both hope get adopted more widely. Furthermore, I am aware of ongoing discussions to further enhance the peer-review process of these venues, such as the potential of introducing a rebuttal phase.

A long-standing aspect to highlight in this context is how our venues stand out in terms of review quality. In our conferences, the vast majority of reviews are conducted by PC members, who are carefully selected, experienced members of the community. This stands in contrast to some larger conferences, where the amount of submissions requires authors to also automatically act as reviewers, no matter how inexperienced they are.

Career & development support. I also want to draw attention to initiatives in our community that support researchers. Examples in this regard include:

- **PhD support:** Although doctoral consortia are a long-standing part of our conferences,I want to highlight their importance for PhD candidates
  specifically commend the willingness of senior researchers from the community to take their time to participate as mentors here.
- **Early-career meetings:** More recently, I also see initiatives to support researchers for the steps *after* their PhD, such as the early-career meeting organized at BPM. I believe such initiatives are highly important, since there are many aspects for this stage of a career (what to consider when applying, how to write high-quality grant proposals, etc.) that are otherwise inaccessible to researchers without the right mentor, which creates an imbalance in terms of future opportunities.
- **Attention for diversity:** Finally, various initiatives aim to support researchers to promote diversity, such as the DEI program at the BPM conference and the Women in Process Mining[6] meetup at ICPM (and in other locations).

5 Outlook

As a community, we should strive to further improve the quality of our publication venues, thereby enhancing the recognition of our field as a source of high-quality and high-impact research. This requires a broader adoption of established best practices, such as double-blind reviewing and page limits that exclude references, as discussed in Section 4. Additional improvements worth exploring include the introduction of rebuttal phases and roll-over procedures between venues.

[6] https://women-in-process-mining.com/

A key step in this direction is the consolidation of scientific output into a smaller number of strong publication venues. Ideally, relevant work should appear either in a core set of high-quality community venues or in reputable outlets from neighboring disciplines (see Section 2). Smaller venues, such as workshops and local conferences, should move away from soliciting completed research papers, but rather focus on idea development, exchange, and networking. EMISA2025 offers are a great example of how to do this!

As take home messages, I would advice early-career researchers to consciously improve their research skills (such as how to write papers) and to develop an understanding of how the academic world works, in the broadest sense. I would also like to highlight the critical role that senior researchers should take in this regard, since they should serve as role models and provide guidance to PhD candidates and postdocs in the community when it comes to matters such as how to conduct high-quality research, attract grants, and career development.

Together, we can drive BPM research and the community forward!

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