
REFRAMING AI-AUGMENTED BUSINESS PROCESS MANAGEMENT THROUGH HABERMAS’S THEORY OF COMMUNICATIVE ACTION

Reneta Barneva, Valentin Brimkov

Abstract: *The paper critically examines the efficiency-oriented assumptions of current AI-enabled BPM research. It introduces Habermas's Theory of Communicative Action as a framework for analyzing AI-mediated organizational processes and proposes a framework for Communicative AI-Augmented Business Processes (CA-ABP) as well as associated design principles aimed at preserving communication, participation, and legitimacy in increasingly automated environments.*

Keywords: *Artificial intelligence (AI), Business Process Management (BPM), Habermas’s Theory of Communicative Action*

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Introduction

Background. Artificial intelligence (AI) is transforming Business Process Management (BPM) through technologies such as machine learning, predictive analytics, natural language processing, and intelligent automation. These tools enable organizations to analyze process data, predict outcomes, optimize workflows, and support decision-making. As a result, AI is increasingly integrated into organizational processes, creating AI-augmented business models where humans and algorithms jointly shape outcomes.

While AI promises greater efficiency, its growing role raises concerns about transparency, accountability, and human participation. Decisions that once relied on human judgment may increasingly be driven by complex algorithms whose reasoning is difficult to understand and even unknown to the developers. Therefore, AI adoption in BPM represents not only a technological change but also a significant social and organizational transformation.

Problem Statement. Current research on AI-augmented BPM largely adopts a pragmatic perspective, evaluating AI based on parameters such as cost reduction, compliance, and performance improvement. However, business organizations are not merely technical systems; they are social environments where people communicate, negotiate, justify actions, and resolve disagreements.

While AI becomes more embedded in organizational workflows, communicative aspects of organizational life receive less attention.

Research Gap. Growing research on responsible AI, explainable AI, and algorithmic governance has highlighted issues of transparency, accountability, and trust (Adadi & Berrada, 2018; Miller, 2019). However, most studies focus on technical explainability, risk management, or regulatory compliance rather than on how AI influences communication and shared understanding within organizations.

This gap is particularly evident in BPM research, which has traditionally emphasized efficiency and optimization. To address this limitation, this paper applies Jürgen Habermas's Theory of Communicative Action to make recommendations for the organizational processes.

Research Objective and Contributions. The paper develops a conceptual framework for understanding AI-augmented BPM through the lens of communicative rationality. Rather than viewing AI solely as a tool for optimization, it explores how AI can support organizational dialogue, human judgment, and participatory decision-making.

The paper makes the following contributions:

1. It critically examines the efficiency-oriented assumptions of current AI-enabled BPM research;
2. It introduces Habermas's Theory of Communicative Action as a framework for analyzing AI-mediated organizational processes; and
3. It proposes a framework for Communicative AI-Augmented Business Processes (CA-ABP) and associated design principles.

Literature Review

AI-Augmented Business Process Management: Beyond Process Optimization. Business Process Management (BPM) has traditionally focused on the design, execution, and improvement of organizational processes, with strong roots in process engineering and workflow management aimed at efficiency and standardization (Dumas et al., 2018). Recent advances in artificial intelligence have significantly expanded these capabilities, giving rise to AI-augmented BPM, where machine learning, predictive analytics, process mining, and intelligent automation increasingly support process execution and decision-making (van der Aalst, 2022).

AI has transformed business processes from relatively static workflows into adaptive, data-driven systems capable of responding dynamically to changing conditions. Applications such as process discovery, anomaly detection, resource allocation, and predictive decision support promise substantial gains in efficiency, accuracy, and organizational agility (vom Brocke et al., 2021). Consequently, much of the BPM literature views AI primarily as a tool for optimizing organizational performance through cost reduction, error minimization, and improved decision quality (Janiesch et al., 2021).

While this perspective has generated important insights, it tends to emphasize instrumental control and performance outcomes. Business processes are not only technical arrangements but also social practices through which organizational actors coordinate actions and establish legitimacy (Seidel, et al., 2023). As AI becomes more deeply embedded in organizational workflows,

questions arise concerning its impact on these communicative dimensions of process coordination. This is particularly relevant in contexts where AI influences hiring, performance evaluation, risk assessment, or strategic planning. In such situations, organizational effectiveness depends not only on efficiency but also on the ability of actors to understand, justify, and contest decisions.

Human Agency, Explainability, and AI Governance. The growing influence of AI in organizations has stimulated extensive research on responsible AI and algorithmic governance. Scholars have highlighted concerns related to opacity, bias, accountability, and the potential erosion of human agency (Floridi et al., 2018; Jobin et al., 2019).

One response has been the development of Explainable Artificial Intelligence (XAI), which seeks to make algorithmic decisions understandable to users and thereby improve trust, accountability, and oversight (Adadi & Berrada, 2018; Miller, 2019). Similarly, human-centered and human-in-the-loop approaches emphasize maintaining human judgment and supervision within AI-supported decision-making processes (Shneiderman, 2022).

More recently, researchers have argued that trustworthy AI requires not only transparency but also participation, accountability, and contestability (Mökander, 2023). Contestability is particularly important because it recognizes the right of organizational actors to challenge and revise algorithmic outputs. These developments suggest that legitimacy in AI-supported decision-making depends not only on technical accuracy but also on procedural fairness and stakeholder involvement.

Nevertheless, existing governance approaches often frame these issues primarily as technical, legal, or managerial concerns. Comparatively little attention has been given to AI governance as a communicative process through which organizational actors negotiate the norms, assumptions, and values embedded in algorithmic systems. As a result, current discussions provide only a partial understanding of legitimacy in AI-augmented BPM environments.

Habermas and the Communicative Foundations of Organizational Legitimacy. To address this gap, this paper draws on Habermas's Theory of Communicative Action (Habermas, 1985a, 1985b). Habermas distinguishes between strategic rationality, which is oriented toward achieving desired outcomes, and communicative rationality, which is oriented toward mutual understanding through dialogue and justification. While strategic rationality is necessary for organizational coordination, communicative rationality provides the basis for legitimacy by allowing actors to critically evaluate claims concerning truth, normative rightness, and sincerity (Habermas, 1985a).

A related distinction is that between the lifeworld and the system. The lifeworld encompasses shared meanings, norms, and social relationships, whereas the system refers to formal mechanisms of coordination such as bureaucracies and markets (Habermas, 1985b). Habermas warns that modern societies face the risk of the colonization of the lifeworld, whereby instrumental logics increasingly displace communicative forms of coordination.

Although developed before the rise of modern AI, this framework offers valuable insights into contemporary organizational automation. AI systems can be understood as extensions of system rationality because they institutionalize forms of instrumental decision-making within organizational processes. Their growing influence therefore raises questions about whether opportunities for dialogue, participation, and justification are being reduced.

Despite extensive applications of Habermasian theory within information systems research (Klein & Huynh, 2005; Cecez-Kecmanovic, 2005), its relevance for AI-augmented BPM has received limited attention. Bringing these perspectives together shifts the focus from whether AI improves business processes to what forms of organizational coordination and legitimacy AI enables. This provides the foundation for the theoretical reframing developed in the next section.

Communicative AI-Augmented Business Processes (CA-ABP): A Conceptual Framework

Framework Overview. The discussion so far suggests that the key challenge of AI-augmented BPM is not AI itself, but how it shapes organizational coordination. Drawing on Habermas's Theory of Communicative Action, this paper proposes the concept of Communicative AI-Augmented Business Processes (CA-ABP).

CA-ABP refers to business processes in which AI systems are designed and governed to support human deliberation, facilitate dialogue, and preserve opportunities for participation and critique. Rather than replacing human judgment, AI serves as a mediating infrastructure that enhances organizational communication.

The framework consists of three dimensions: transparency of reasoning, dialogical feedback loops, and participatory process reconfiguration. Together, these dimensions operationalize Habermas's validity claims and provide a basis for evaluating whether AI supports communicative or purely instrumental forms of coordination.

Transparency of Reasoning. Communicative action requires that decisions can be justified and critically examined. In AI-enabled BPM, this means that algorithmic recommendations should be understandable and open to scrutiny.

Many AI systems operate as black boxes, limiting users' ability to assess the basis of decisions. A communicative approach therefore requires explanations that reveal the assumptions, data sources, and reasoning underlying AI outputs. By making algorithmic reasoning visible, organizations create conditions in which AI-generated recommendations become objects of deliberation rather than unquestioned directives.

Dialogical Feedback Loops. For Habermas, legitimate communication requires opportunities to question and challenge claims. Yet many AI-supported workflows remain largely one-directional, with users receiving recommendations but having limited opportunities to influence them.

CA-ABP addresses this limitation by embedding feedback mechanisms that allow stakeholders to challenge, refine, or override AI-generated outcomes. Such mechanisms support organizational learning, help identify errors or biases, and strengthen perceptions of procedural fairness. In this way, AI becomes part of an ongoing process of communicative validation rather than an autonomous source of authority.

Participatory Process Reconfiguration. Habermas argues that legitimacy depends on the ability of affected actors to participate in shaping the norms and rules that govern them. Applied to BPM, this implies that stakeholders should be involved in defining the objectives, constraints, and evaluation criteria of AI-supported processes.

Traditional BPM often concentrates process governance in managerial or technical roles. AI may reinforce this tendency by embedding decision rules within opaque algorithms. CA-ABP instead promotes collaborative process redesign and participatory governance mechanisms that enable stakeholders to influence how AI is deployed and adapted.

Participation improves both the quality and legitimacy of organizational processes. By incorporating diverse perspectives, organizations can ensure that AI-enabled BPM remains aligned with shared values while balancing efficiency with democratic forms of governance.

Design Principles for Communicative BPM Systems

Building on the CA-ABP framework, five design principles are proposed to guide the development of communicative AI-enabled business processes.

Explainable process mediation. AI systems should provide understandable explanations of how recommendations and decisions are generated, enabling stakeholders to critically evaluate algorithmic outputs.

Communicative override mechanisms. Users should retain the ability to question, modify, or override AI-supported decisions when contextual knowledge or ethical considerations require intervention.

Multi-actor validity checking. Significant process decisions should be reviewed from multiple stakeholder perspectives, ensuring that decisions are evaluated through dialogue rather than unilateral authority.

Reflexive process learning and governance. AI-supported processes should continuously evolve through feedback, organizational learning, and stakeholder participation in process redesigning and AI governance.

Participatory AI Governance. Organizations should establish governance structures that enable stakeholders to participate in decisions regarding AI adoption, process redesign, and algorithmic accountability.

Together, these principles shift BPM design from a purely optimization-oriented approach toward communication-centered governance, helping organizations integrate AI while preserving transparency, participation, and legitimacy.

Discussion

Practical Implications. The framework suggests that successful AI adoption requires more than technical implementation. Managers and BPM practitioners should design AI-enabled processes that support explanation, participation, and human judgment rather than relying solely on automated decision-making.

Similarly, policymakers and regulators should move beyond transparency requirements and promote mechanisms for contestability, stakeholder participation, and procedural legitimacy. Such measures can help ensure that AI systems remain both effective and socially acceptable.

Future Research. Future research should empirically examine how communicative and strategic forms of rationality interact within AI-enabled BPM environments. Further studies could develop measures for concepts such as communicative transparency, algorithmic contestability, and process legitimacy. Design science research may also explore practical BPM artifacts and governance mechanisms that operationalize the principles proposed in this paper.

Conclusion

The growing integration of AI into Business Process Management is transforming how organizations coordinate activities and make decisions. While AI offers significant opportunities for efficiency and performance improvement, it also raises important questions concerning transparency, participation, and legitimacy.

This paper has argued that many approaches to AI-augmented BPM remain grounded in strategic rationality and therefore risk reinforcing instrumental forms of coordination. Drawing on Habermas's Theory of Communicative Action, it proposed the Communicative AI-Augmented Business Process (CA-ABP) framework as an alternative perspective that places communication and legitimacy at the center of AI-enabled process design.

By emphasizing transparency of reasoning, dialogical feedback, and participatory process reconfiguration, the framework reconceptualizes AI as a facilitator of organizational communication rather than merely a tool for optimization. Ultimately, the long-term success of AI in organizations will depend not only on efficiency gains but also on its ability to sustain dialogue, participation, and legitimacy in increasingly automated environments.

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Authors' Information



Reneta Barneva – Prof. Dr., State University of New York at Fredonia; 280 Central Ave., Fredonia, NY 14063, USA;

e-mail: barneva@fredonia.edu

Major Fields of Scientific Research: Technology and Society, Data Analytics, Artificial Intelligence, Imaging



Valentin Brimkov – Dist. Prof. Dr., SUNY Buffalo State; 1300 Elmwood Ave., Buffalo, NY 14222, USA;

e-mail: brimkove@buffalostate.edu

Major Fields of Scientific Research: Theoretical Foundations of Computer Science, Graph Theory, Artificial Intelligence, Imaging