

Call for Papers for a Special Section on  
**Knowledge-Driven BPM**  
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**ACM Transactions on  
Internet Technology**

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**Submission**

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Please select "Special Section: Knowledge-Driven BPM" under Manuscript Type dropdown in the Manuscript Central website.

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Business Process Management (BPM) has traditionally focused on well-structured and formally designed and executed business processes. Several business processes, however, are knowledge-centric, defined dynamically by knowledge workers, or creative (i.e., covering a unique situation). We call this larger class of processes *knowledge-driven*.

We anticipate that knowledge-driven BPM systems will support human decision-making and devices in IoT, which requires leveraging knowledge about processes and their contexts in an automated and proactive manner. A variety of knowledge is relevant in such settings, e.g., concerning process activities, causal relationships, process goals, and enterprise architectures. Knowledge-driven BPM can involve novel conceptions of process specification (e.g. using commitments or strategy models) or the extraction of process knowledge from available artifacts as well as novel process analysis techniques leveraging the richer knowledge about processes.

This special section calls for scholarly articles related to all aspects of knowledge-driven BPM. This includes abstractions, design methods, techniques, analytics, and execution support for next generation BPM systems. In the modern world, the support of knowledge-driven processes should further take the advances in mobile, social, IoT, and cloud as well as in human computer interactions into account.

The topics of interest include, but are not limited, the following, for knowledge-driven BPM:

**Modeling support**

- Process modeling frameworks
- Process modeling techniques (e.g., artifact-centric and goal-driven approaches)
- Context modeling
- Commitment-based techniques for abstract process specification
- Leveraging process provisioning knowledge

**Execution support**

- Goal-oriented, context-centric, data-driven enactment
- Flexible process engines for enacting semi-structured and unstructured processes
- Adaptive case and checklist management
- Machine learning and artificial intelligence approaches
- Coordination and interaction support for users and resources

**Analytics support**

- Process discovery from unstructured process descriptions or artifacts, and unstructured (big) data
- Process compliance analysis
- Diagnostic and predictive process analytics

**Paradigms, applications and related topics**

- Interaction paradigms for human-centric and knowledge-driven business processes
- Supporting knowledge-driven processes in the age of mobile computing, social media, IoT, and cloud
  - Cognitive BPM: Abstractions, models, discovery, learning, teaching of cognitive business processes