

	Maturity Level	Goal/Applications	Method	Description	Advantages	Disadvantages
Descriptive analytics (what happened)	Level 1 Process mining aware	<ul style="list-style-type: none"> • Proof-of-concept • enhance technical understanding of how to do PM 	PDM	Methodology to perform process diagnostics based on PM. Gain quickly insights in the processes of the organizations and their support by information systems [3].	<ul style="list-style-type: none"> • easy method • focuses on the core activities of PM (Data collection, Data preprocessing, Mining & Analysis) • provide quickly a broad overview of a process [3] • emphasises on avoiding the use of domain knowledge during the analysis [3] 	<ul style="list-style-type: none"> • method is limited • covering only a small number of PM techniques: activities that have nothing directly to do with the PM are not addressed (Stakeholder support & involvement, Define research question, Organizational & strategic alignment) • less applicable for larger, more complex projects [3] • not explicitly encourages iterative analysis [3] • Provides a very basic abstraction level.
	Level 2 Partial process coverage	<ul style="list-style-type: none"> • First analysis • some interesting insights 				
Diagnostic analytics (why did it happen)	Level 3 End-to-end process coverage	<ul style="list-style-type: none"> • first full end-to-end process analysis • analysis is linked to value stream KPIs • root cause analysis is providing actionable insights 	L*	Describes a PM project method consisting of five stages. Goal is to increase the maturity of PM as a new tool to improve the (re)design, control, and support of operational business processes [2].	<ul style="list-style-type: none"> • covers many different aspects of PM and touches on broader topics like process improvement and operational support [3] • defining a set of guiding principles and listing important challenges [2] 	<ul style="list-style-type: none"> • PM areas like 'Organizational & strategic alignment' is not addressed • 'Stakeholder Support & Involvement' and 'Define research question' are only dealt with in passing • was primarily designed for the analysis of structured processes (Lasagna processes) and aims at discovering a single integrated process model [3] • not suitable for every project (e.g. unstructured processes (Spaghetti processes)) • not explicitly encourages iterative analysis [3]
	Level 4 Live process data	<ul style="list-style-type: none"> • operationalised ETL (data pipeline) • live data supports day-to-day process management • process experts rely on analyses for their operations 	PM^2	Guide the execution of PM projects. Is highly iterative and emphasises the need for close collaboration between process analysts and business experts [3].	<ul style="list-style-type: none"> • designed to support projects aiming to improve process performance or compliance to rules and regulations [3] • covers a wide range of PM and other techniques • suitable for the analysis from structured and unstructured processes • concrete steps to be executed • quick analysis iterations and evolving insights [3] • taking existing best practices into account [3] • well structured with steps and activities • shows the importance of the knowledge from the Business experts and the PM-knowhow from the Process analysts • sets a focus on project execution 	<ul style="list-style-type: none"> • 'Stakeholder Support & Involvement' could be described in more detail. The method does not address the problem of involving management or other stakeholders to establish PM in the long term. • the problem of integration into the organization is not addressed
Predictive analytics (what will happen)	Level 5 Predictive Process Mining	<ul style="list-style-type: none"> • predictive process analysis • stakeholders use PM for alerts & forecasting 	(PM^2) + PM framework for correlating, predicting & clustering dynamic behaviour	The framework unifies a number of approaches for correlation analysis proposed in literature, proposing a general solution that can perform those analyses and many more.	<ul style="list-style-type: none"> • involve process characteristics related to different perspectives (control-flow, data-flow, time, organization, cost, compliance, etc.) 	<ul style="list-style-type: none"> • focus on correlating, predicting and clustering dynamic behaviour. No general guideline/framework.
Prescriptive analytics (what is the best that could happen)	Level 6 Action-oriented Process Mining	<ul style="list-style-type: none"> • live process data triggers situationally aware automations 	(PM^2) + A general framework for Action-oriented PM	A general framework for action-oriented PM that supports the continuous management of operational processes and the automated execution of actions to improve the process.	<ul style="list-style-type: none"> • thinks PM to the end and ends not with a optimized process or insight of a process. • gets input streams for continuous monitoring and optimization • continuously transforms process diagnostics into proactive actions for process improvement 	<ul style="list-style-type: none"> • no guideline for PM. Shows only how to use PM continuously and not only for a single research question and project