

Factors [28]	Elements [28]	Definition/ Example [28]	Maturity/Stages					
			1 Initial [28]	2 Fluency/entry [28]	3 Standalone [28]	4 Systematic [28]	5 Optimizing [28]	6 Outstanding
<div> <div>Organization</div> <div>Organization enables significant process mining</div> </div>	Purpose	Describes the scope of process mining <b>use cases</b> in the organization, as well as the long-term <b>strategies</b> and vision. A use case contains a process mining technique, a process and an expected <b>benefit</b>	No specific <b>use case</b> has been defined yet	A <b>first use case</b> for process mining exists in the organization	A <b>vision</b> is written down, supported by <b>performance indicators</b> and a <b>monitoring</b>	The application of process mining is <b>continuously expanded</b> based on a <b>roadmap</b> with regard to <b>new techniques</b> or processes	A long-term <b>purpose</b> vision is <b>continuously refined</b> , meticulously executed, and thoroughly evaluated to enable <b>advanced applications</b> on processes.	
	Center of excellence for process mining	Bundles the effort for process mining in the organization, thus <b>accelerating the adoption</b> - Leadership and managerial support - Technical support and trainings - Methodological support, best practices	No <b>unit</b> of the organization <b>bundles support</b> for process mining	One unit deals with process mining with focus on <b>one specific use case</b> Time horizons are <b>short-term</b>	An <b>interdisciplinary team</b> addresses <b>multiple use cases</b> Time horizons are <b>medium-term</b>	A (centralized or hybrid) <b>Center of excellence</b> guides role assignment, tasks, and duties for process mining Time horizons are <b>long-term</b>	Process mining is established and <b>anchored</b> it in the <b>organizational structure</b> Time horizons are <b>visionary and future-oriented</b>	Process mining is established and anchored it in the organizational structure. In addition, there is an <b>expert group dealing with advanced applications in PM</b> . Time horizons are <b>visionary and future-oriented</b>
	Process centricity	The organizations aspiration is to <b>think and work cross-functionally</b>	No <b>process awareness</b> (functional divisions act and optimize for themselves)	Initial <b>process awareness</b> through <b>cross-functional process</b> oriented thinking	<b>Cross-functional</b> process management (e.g. fixed responsibilities, standardization measures and KPIs)	<b>Target-driven</b> end-to-end processes (e.g. proactive action and strategic alignment of processes)	<b>Continuous optimization</b> of end-to-end processes	<b>Automated optimization</b> of end-to-end processes
	Evidence centricity	Data is generally used to <b>base decisions</b> in the organization	Data is <b>not used for decision support</b>	Data is <b>actively collected</b> but not used for decision support	Data is <b>actively collected</b> , but not actively used to support decisions (i.e. there is no need to view the data)	Data is <b>actively used</b> for decision support	Data-based <b>standard solutions</b> are established in relevant business areas and account for the main source of information	<b>Process Mining Analysis solutions</b> are established in the relevant business areas and complement data-based standard solutions.
	Change centricity	<b>Culture and organization</b> is open for change	Corporate culture is <b>rigid</b>	Changes only happen <b>top-down</b>	A culture of change is established among employees, especially in the form of an <b>active error culture</b>	<b>Mistakes</b> are seen as a <b>chance</b> for improvement	<b>Change</b> is considered <b>natural</b> at all levels	Change is seen at all levels as an opportunity to <b>gain an advantage</b> over competitors.
	Methods of process mining project phases	Nature of <b>methods</b> in the organization to structure tasks of process mining project phases - Workshops or structuring templates - Data map - Process models like CRISP-DM or PM2	No <b>supporting methods</b> in use	Supporting methods are <b>undocumented</b>	Supporting methods are <b>documented</b>	Supporting methods are <b>linked to project phases</b> and become mandatory	Methods are <b>bundled and further developed</b> in one place	Methods are <b>bundled and further developed</b> in one place. <b>New Methods from science</b> are quickly implemented in practice in a meaningful way.
<div> <div>Data foundation</div> <div>Environment enables sufficient process mining</div> </div>	Process-oriented IT-systems	Describes the <b>maturity</b> used IT-systems regarding <b>completeness</b> and <b>reliability</b> for event logs	Data is mainly recorded by <b>hand</b>	The majority of data is recorded <b>automatically</b> as a by-product of IT-systems, but there is <b>no claim to completeness</b> or reliability	Data is <b>automatically recorded</b> by IT-systems and the <b>data</b> in the system is <b>reliable</b> , but there is <b>no claim to completeness</b>	Data is <b>automatically recorded</b> by IT-systems and is <b>completely and reliable</b>	In addition, <b>data protection, security, and semantically clear structures</b> are guaranteed	The IT-system <b>automatically provides an event log</b> for each process.
	Data accessibility	<b>Access</b> to data can be given <b>quickly</b> to relevant entities - Reduction of obstacles - Uniform and optimal format - Reduction of access time	Data is <b>not optimally accessible</b>	First business units develop a <b>strategy to increase accessibility</b> Data is <b>only extracted on demand</b> and in a <b>costly manner</b>	The strategies are <b>extended and aligned</b> times are accelerated on demand, but in a <b>fixed procedure</b>	Hurdles are systematically removed, and <b>access times are accelerated</b> through targeted measures Extraction is standardized and enables <b>immediate data transformation</b>	Data is <b>directly accessible</b> at any time according to the analysis questions without <b>additional IT effort</b>	In addition, <b>further data</b> is available for direct retrieval at any time, which can be used additionally.
	Scope of the data	Data is <b>annotated, transformed and enriched</b> with further information according to its process-specific context - Meta data - Additional attributes like resource, order size, type of product etc. - Completeness of contextualization	No <b>additional description</b> of the data	<b>Limited</b> data scope, with manual extensions and testing	<b>Functional</b> data scope, with first automated contextualization for specific application scenarios	<b>Advanced</b> data scope, through corporate standards for contextualization	Data is <b>automatically extended</b> by its context	Data is <b>intelligently and dynamically augmented in real-time</b> , leveraging advanced contextual analysis and predictive algorithms to ensure comprehensive and accurate information.
<div> <div>People's knowledge</div> <div>People understand process mining</div> </div>	Handling process mining tools	The ability to use <b>usable tools independently</b> the right time - Knowledge of functional scope - Knowledge about tool limitations	No <b>knowledge</b> exists in handling process mining tools	Relevant business units have <b>unpracticed knowledge</b> about process mining tools	<b>Operational, autonomous knowledge</b> of process mining tools available in relevant business areas	Relevant business areas have <b>routinized knowledge</b> in the use of tools and can <b>solve complex tasks autonomously</b>	A <b>knowledge management</b> , carried out by a <b>separate unit</b> , is implemented to facilitate <b>knowledge externalization and networking</b> across business areas	A <b>seamlessly integrated knowledge ecosystem</b> , driven by a centralized and agile knowledge management function, empowers effortless knowledge externalization, fosters cross-functional networking, and facilitates real-time knowledge sharing and collaboration across all business domains.
	Technical basics	<b>General knowledge</b> of IT topics - Integration and dashboarding - Database queries - Operational support	No <b>knowledge</b> exists on technical basics	Relevant business units have <b>theoretical knowledge</b> of technical basics	<b>Operational, autonomous knowledge</b> of technical basics available in relevant business areas	Relevant business areas have <b>routinized knowledge</b> of technical basics and are able to <b>solve complex tasks autonomously</b>	A <b>knowledge management</b> , carried out by a <b>separate unit</b> , is implemented to facilitate <b>knowledge externalization and networking</b> across business areas	A <b>seamlessly integrated knowledge ecosystem</b> , driven by a centralized and agile knowledge management function, empowers effortless knowledge externalization, fosters cross-functional networking, and facilitates real-time knowledge sharing and collaboration across all business domains.
	Data preparation	Data can be processed to <b>increase its information content</b> - Reprocessing pipeline - Filters for data - Detect human errors and incompleteness	No <b>knowledge</b> exists on data preprocessing	Relevant business units have <b>theoretical knowledge</b> of data preprocessing	<b>Operational, autonomous knowledge</b> of data preprocessing available in relevant business areas	Relevant business areas have <b>routinized knowledge</b> of data preprocessing and can <b>solve complex tasks autonomously</b>	A <b>knowledge management</b> , carried out by a <b>separate unit</b> , is implemented to facilitate <b>knowledge externalization and networking</b> across business areas	A <b>seamlessly integrated knowledge ecosystem</b> , driven by a centralized and agile knowledge management function, empowers effortless knowledge externalization, fosters cross-functional networking, and facilitates real-time knowledge sharing and collaboration across all business domains.
	Classic data mining	Knowledge about the <b>general handling</b> of large data sets - Clustering - Dimension reduction - Feature selection - Machine learning	No <b>knowledge</b> exists of classic data mining	Relevant business units have <b>theoretical knowledge</b> about classic data mining	<b>Operational, autonomous knowledge</b> of classic data mining available in relevant business areas	Relevant business areas have <b>routinized knowledge</b> of classic data mining and can <b>solve complex tasks autonomously</b>	A <b>knowledge management</b> , carried out by a <b>separate unit</b> , is implemented to facilitate <b>knowledge externalization and networking</b> across business areas	A <b>seamlessly integrated knowledge ecosystem</b> , driven by a centralized and agile knowledge management function, empowers effortless knowledge externalization, fosters cross-functional networking, and facilitates real-time knowledge sharing and collaboration across all business domains.
	Process mining basics	Basic knowledge in process mining: <b>process mining techniques</b> , process <b>representations</b> (Petri nets, DFG, BPMN, etc.), <b>algorithms</b> - Advantages and disadvantages are known - Tailoring to use case	No <b>knowledge</b> exists of process mining basics	Relevant business units have <b>theoretical knowledge</b> about process mining basics	<b>Operational, autonomous knowledge</b> of process mining basics available in relevant business areas	Relevant business areas have <b>routinized knowledge</b> of process mining basics and can <b>solve complex tasks autonomously</b>	A <b>knowledge management</b> , carried out by a <b>separate unit</b> , is implemented to facilitate <b>knowledge externalization and networking</b> across business areas	A <b>seamlessly integrated knowledge ecosystem</b> , driven by a centralized and agile knowledge management function, empowers effortless knowledge externalization, fosters cross-functional networking, and facilitates real-time knowledge sharing and collaboration across all business domains.
	Advanced application	Process mining for <b>use cases beyond the main techniques</b> (Inventory, conformances, enhancement) - Control flow, organization, cases, time perspective - Process flows - Predictive process mining	No <b>knowledge</b> exists on advanced applications	Relevant business units have <b>theoretical knowledge</b> on advanced applications	<b>Operational, autonomous knowledge</b> of advanced applications available in relevant business areas	Relevant business areas have <b>routinized knowledge</b> of advanced applications and can <b>solve complex tasks autonomously</b>	A <b>knowledge management</b> , carried out by a <b>separate unit</b> , is implemented to facilitate <b>knowledge externalization and networking</b> across business areas	A <b>seamlessly integrated knowledge ecosystem</b> , driven by a centralized and agile knowledge management function, empowers effortless knowledge externalization, fosters cross-functional networking, and facilitates real-time knowledge sharing and collaboration across all business domains.
<div> <div>Scope of the process mining activity</div> <div>Holistic application of process mining</div> </div>	Discovery	Process discovery describes how to <b>create process models</b> from event logs - Create actual process models - Incorporate knowledge from domain experts - Enrich process model with additional data	Process mining is <b>not used</b> for process discovery	Process discovery is used for <b>simple proof of concepts</b> or <b>not by the organization itself</b>	Process discovery is used in <b>selected use cases</b> by the organization itself	Process discovery is used for <b>all relevant business processes</b>	The use of process discovery is <b>continuously optimized and expanded</b>	An <b>AI-driven process discovery</b> continually evolves and expands, optimizing operational efficiency.
	Analysis	Analysis describes the <b>data-based analysis</b> of processes with regard to dimensions such as time, quality, complexity or costs - Quantitative analysis (flow analysis, cycle time ...) - Conformance checking	Process mining is <b>not used</b> for process analysis	Process analysis is used for simple proof of concepts or <b>not by the organization itself</b>	Process analysis is used in <b>selected use cases</b> by the organization itself	Process analysis is used for <b>all relevant business processes</b>	The use of process analysis is <b>continuously optimized and expanded</b>	An <b>AI-driven process analysis</b> continually evolves and expands, optimizing operational efficiency.
	Monitoring and controlling	Ongoing <b>monitoring and control</b> of processes by means of <b>keyprocess indicators</b>	Process mining is <b>not used</b> for process monitoring and controlling	Process monitoring and controlling are used for simple proof of concept or <b>not by the organization itself</b>	Process monitoring and controlling are used in <b>selected use cases</b> by the organization itself	Process monitoring and controlling are used for <b>all relevant business processes</b>	The use of process monitoring and controlling is <b>continuously optimized and expanded</b>	An <b>AI-driven process monitoring and controlling</b> continually evolves and expands, optimizing operational efficiency.
	Operating advanced use cases	Process mining is used specifically for <b>advanced application scenarios</b> such as <b>prediction or automated execution of actions</b>	Process mining is <b>not used</b> for advanced applications	Advanced applications are applied to simple proof of concepts or <b>not by the organization itself</b>	Advanced applications are applied to <b>selected use cases</b> by the organization itself	Advanced applications are applied to <b>all relevant business processes</b>	The use of advanced applications is <b>continuously optimized and expanded</b>	Advanced applications are constantly being developed, enhanced and <b>automated using AI</b> to optimize operational efficiency.
<div> <div>Governance</div> <div>Guidelines for process mining application</div> </div>	Method/ tool governance	The maturity of guidelines that define who can and must use which <b>tools/methods</b> - Which tool for which use case - Which method in which phases of the BPM lifecycle	No or <b>undocumented</b> method/ tool guidelines	<b>Documented</b> methodological guidelines, but not <b>consistently enforced</b>	<b>Documented</b> methodological guidelines are visible at a central location for all stakeholders and are <b>consistently enforced</b>	Future and historical changes to methodological guidelines are <b>visible for all stakeholders at a central location</b>	Governance matters are <b>bundled and further developed</b> at one entity within the organization	A <b>centralized governance center</b> leads comprehensive development, refinement and documentation in a location that is readily accessible to all stakeholders at all times.
	Roles and responsibilities	The maturity of policies that define <b>accountability and role assignment</b> for process mining in the organization - For employees, but also for other actors (crowd workers, robots, smart devices, software)	No or <b>undocumented</b> roles and responsibilities	<b>Documented</b> responsibility guidelines, but not <b>consistently enforced</b>	<b>Documented</b> responsibility guidelines are visible at a central location for all stakeholders and are <b>consistently enforced</b>	Future and historical changes to responsibility guidelines are <b>visible for all stakeholders at a central location</b>	Governance matters are <b>bundled and further developed</b> at one entity within the organization	A <b>centralized governance center</b> leads comprehensive development, refinement and documentation in a location that is readily accessible to all stakeholders at all times.
	Process governance	The maturity of standards and guidelines for <b>process decisions</b> - Who gets to modify processes and when? - Who defines and measures process performance? - Who documents and actualizes processes?	No or <b>undocumented</b> process guidelines	<b>Documented</b> process guidelines, but not <b>consistently enforced</b>	<b>Documented</b> process guidelines are visible at a central location for all stakeholders and are <b>consistently enforced</b>	Future and historical changes to process guidelines are <b>visible for all stakeholders at a central location</b>	Governance matters are <b>bundled and further developed</b> at one entity within the organization	A <b>centralized governance center</b> leads comprehensive development, refinement and documentation in a location that is readily accessible to all stakeholders at all times.
	Data governance	The maturity of <b>guidelines</b> for management and control over the use of ( <b>process</b> ) data - Who is allowed to view process data and when? - Who may grant access to data and when?	No or <b>undocumented</b> data guidelines	<b>Documented</b> data guidelines, but not <b>consistently enforced</b>	<b>Documented</b> data guidelines are visible at a central location for all stakeholders and are <b>consistently enforced</b>	Future and historical changes to data guidelines are <b>visible for all stakeholders at a central location</b>	Governance matters are <b>bundled and further developed</b> at one entity within the organization	A <b>centralized governance center</b> leads comprehensive development, refinement and documentation in a location that is readily accessible to all stakeholders at all times.