March Marc											
1	14	d I	Phases/ca	ategories	identifier	CSF'sirhallennes (literature)	Description	saures	Innut (Requirements)	Quteut	Possible ALtonis
The content of the	-10					OUT DECEMBER (METALUTE)	Access to contextual information such as process models.	and FCES	PROG. INSCRIPTION	Output	FORMUL RI-100B
Part					1.1		business rules, policy documents, legal and regulatory				
Marie Mari						Availability of contextual information	requirements that can sed process mining [18], [19].	Mans et al. Mamudu et al.	-		
Marie Mari							processes to be mined and composing the project team to				
Part					1.2		execute process mining initiatives [18].		ļ ļ	ı	
The content of the						Planning (Process selection)		Marrudu et al., Grisold et al.			The second secon
The content of the							The composition of feature and amount arrange involved in second		Process knowledge (e.g. Process models, etc.) [3], business		
1	1	1	Define resear	arch question			mining projects. Two main configurations namely: Established		rules, policy documents, legal and regulatory requirements, possible projectteam-members	selected business process [3], composed project team [3], project goals, defined research questions [3], [4]	Engine [64], may result in (new) research questions.
Part							units: An internal team dedicated to ex-ecuting process mining initiatives. E.g., a Centre of Excellence (CoE), Ad-hoc units: A			project goals, cented research quantitie (c), [4]	
Part							group of experts assembled from dif-ferent departments within the				
The second content of the content					1.3	Team configuration	required [18].				
Part											
The content of the							from a lack of interdisciplinary and cross-functional teams				
The content of the							covering sponsors, 11, and data specialists as well as business users and project managers [21].				
Part	-						., , , , ,	Mamudu et al., Martin et al.			
Part							L	1			
Part							The extent to which historical event data is available for process mining analysis [18].				
Part							Constraining data access burriers: I imited data access access				ı
Part							departmental and organizational boundaries restricts PM [21].				
The continue of the continue							The availability of event data needed for PM is limited I211.				
Part											
Part Continue Part Con							and security regulations limits the detail of what can be discovered				
Auto-					2.1	Evert data availability	and analyzed through PM [21].				
Auto-	- 1						Difficult handling of unstructured data: PM provides limited support			[
Auto-	1						for exprorting unstructured data that is not available in activity- based semantics or even format (21).			l	
Market M	2	2	Data col	ollection					process description (3), located systems & databases, database documentation, which historical event data are available	access to the databases, data privacy regulations clarified, raw data exported (3), (4), conceptual data movies (4)	Apache OpenNLP [60],
Part							I nere is an asymetry in terms of the permission to access and use of relevant data [22].				
Part											
Page							organizational barriers [22].	L			
Page							The remined data analyting appetition for the extraction	Mamudu et al., Martin et al., Grisold et al.	1		
Miles Mile							integration of event data for process mining [18].				
Million content with the content of the content o	1				2.2	Data extraction expertise	Teams who are responsible for data integration often have				
Second Continued Processing	1						difficulties to obtain the data since they are not involved in the	L			
Processing Pro	1			-			Determining the data autroption come autroption	Mamudu et al., Grisold et al.	-		
Processing Pro					2.3	Extraction	transferring process knowledge be-tween business experts and				
So Date previously 1	-					I .	process analysts [18].	Mamudu et al.			
See and the fine of the processing of the control o							Description for the extraction and resourcition of count data from				
Service of the properties of the control of the con							single or multiple sources for process min-ing based on lessons				
The control control improvements on a filter or specimen or specim							learnt [18].				ı
The rest and stockers they require a common different register. The rest and stockers they require a common different register. The rest and stockers they require a common different register. The rest and stockers they require a common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The rest and stockers the register common different register. The register of register common different regist					3.1	Data preprocessing	Complex data preparation: Substantial effort is required for data				
Descript preserving Secretary and Control Secret											Auto-1016 Cont No. 1000
The first and provided the control of the control o	3	3	Data pre-processing			1	There are data fractions when process run on different systems [22]		exported raw data [3]	filtered event-log based on the research questions [3], [4]	, ,,
Section Sect				-			[anj.	Mamudu et al., Martin et al.			PM4KNIME (63)
Some or and data are fallen in counts only putter services (CF) Applying more every devices the same of action and services on the putter services (CF) Applying more every devices the same of action and services on the putter services (CF) Applying more every devices the same of action and services on the putter services (CF) Applying more every devices the same of action and services on the putter services (CF) Applying more every devices and services on the putter services (CF) Applying more every devices and services on the putter of action and of action (CF) Applying more every devices the strength on the putter of action and of action (CF) Applying more every devices the strength on the putter of action and of action (CF) Applying more every devices the strength on the putter of action and and action of action and action of action Applying more every devices the strength on the putter of action and action of action						T	The data quality considerations and minimum requirements to be				
Source and the security of the company of the compa					3.2	Fuert-ing quality considerations	met by event loos for process mining [18], [19].				
And the state of t					1	Source or event data	Source or event data are often in accurate, noisy, and/or				
A supplied of the second process and the base of authors and the second of afficient being grown and process of the second of a second process of the second						incomple	moonspread (d.1).	Mans et al., Mamudu et al., Martin et al.			
A supplied of the second process and the base of authors and the second of afficient being grown and process of the second of a second process of the second	<u> </u>						Applying process mining techniques to answer need from and asia				
4.1 Guestian September Se	- 1						insights [19].				
See of the contact of							Insufficient technical skills: The lack of sufficient training in				[64].
Present responses may be refunded and the continuous visible as a form discolorant stage of the continuous personant responses to the continuous p	1				4.1		technical skills required to implement PM is detrimental to setting up and conducting PM (21).				
More and Judation When and Judation See and Judation The Congulations (Significe) The Congulations (Significe) The Congulation The Congulation The Congulation The Congulation The Congulation See and S											
Segretar of process ording operations with their data analysis conjugate (all process in the process of the pro						Mining and Analysis	can inform decision-making [22].	Mans et al., Martin et al., Grisold et al.			
Constraint 4.2 Constraint 4.2 Constraint 4.3 Constraint 4.3 Constraint 4.3 Constraint 4.3 Constraint 4.4 Constraint 4.4 Constraint 4.4 Constraint 4.4 Constraint 4.5 Constraint								s			
General Tool equilibries: Noticy time regulation regulations produced regulation regulations and programmed an							imagnation or process mining capabilities with other data analytics capabilities [18].				
Tool capabilities: Integration into early the responsibility of th	- 1				4.2		Challenging (real-time) system integration: Insufficient real-time				
Total capabilities: Integrate conjustifies and in large transport or production of the confidence of				General			system connectivity or integration into existing IT infrastructure				
To to took daily to write add to in register consists. The six half of competence AP AT Took copaditions. The is a lack of competence AP AT Took copaditions. The is a lack of competence AP AT Took capabilities. Author of all the control of the copaditions appropriate where the control of the copaditions appropriate where the copaditions are control or copaditions. The is a lack of competence and appropriate where the copaditions are control or copaditions. The copaditions are control or copaditions are control or copaditions. The copaditions are copaditions. The copadit							negatively impacts deriving insights through PM [21].				
A STORY Control State Control							The troops ability to analyse data for insides into one and finite		1		
Tot capabilities. Authorid islandably solutions appropria was for discontainment and authorid performance and authoridate and a					42		and E2E processes [18]				
Level-Log [3], Process model [5], research quantities also a optimized process model [6]. Level-Log [3], Process model [5], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process model [6]. Level-Log [6], Process model [6], research quantities also a optimized process where the process and the proce	- 1		8		3		Fragmented solutions: There is a lack of comprehensive PM				
A construction for the process model (§), research quantities also a registrated process model (§). 4.5 Less of advanced features 4.6 Discovery 4.7 Tool capabilities: Process discovery 4.8 Tool capabilities: Conformance 4.8 Tool capabilities: Conformance devisity Computers Description of the conformance of the capabilities of the capabilities of the conformance of the capabilities of the conformance of the capabilities of the capa			ana			Tool capabilities: Analytical Scalability		I). Mamudu et al., Martin et al.	5	required insights with different views [3],	
45 Less of absorbed features (Annual Control C	'		200		4.4		Non-standard visualization techniques used in PM may lead to		Liverancing (3), Processe modes (3), research questions (4)	based on the research questions also a optimized process model	
4.5 Local of absenced features with an advanced features with an advanced features with an advanced features with a submitted of the control and advanced features and advanced features with a submitted of the control and advanced features and			M			Incomprehensible outcomes	models [21].	Martin et al.			
A formed process model decomy of process decompliance. Plantice and process described. Tool capabilities. Process decomply 177 Conformance 4.5 Conformance 4.5 Tool capabilities. Process decomply Obta accounted A formed of an America of a Memorica of a Memoric					4.5	L	PM lacks advanced features such as automation, simulation, and				
Discussion of Total capabilities. Process discovery decimal reside that more central DIST. 4.7 Discussion of Total capabilities. Process discovery decimal reside that more central DIST. 4.7 Discussion of Total capabilities. Process discovery decimal reside that more central DIST. 4.8 Total capabilities. Conformance theologiComplane Discussion of SIS. Discussion of Audition from process remain single event. Minimate of A. Minimate of A.						Lack of advanced features	Automated process model discovery and process visualisation	Martin et al.			
Tool capabilities: Process discovery Tool capabilities: Process discovery A7 Discovery A7 Discovery A8 Tool appealables: Process discovery Discovery A8 Tool appealables: Process discovery Dis				Discovery	40						
4.7 Obta procession 1.0 Set procession 1.0 S					4.6	L	Difficult analysis of process exceptions: PM lacks support for				
Conformance 4.8 Tool capabilities: Conformance devicing/Complaines Description of process across some some over tead of process across some over tead of te	- 1					roor capabilities: Process discovery	Using process mining tools to create views, annumber	memora et al., Martin et al.	1		
Conformance 4.5 Tool capabilities: Conformance chanking/Complanes Unique ent after or expectation of deviations from process rooms using event data [11]. Minuted at all complanes and complanes of process rooms using event data [12]. Performance 4.9 Tool capabilities: Process thenchmorking Insufficient process thency then process thency then process thency then process then process then process then process then process thency then process					4.7	L	enrich or filter logs to generate the required insights from event	L			
Tod capabilities: Confirmment chancing/Complanes Doing ment data for comprehensive process believe to an and an anti-process believe to an and an anti-process believe to an anti-proc						Lieux procussinó			1		
Performance 4.9 Tool capabilities: Process Sendmentally process performance of process and process performance of process performance of process and process performance of perf				Conformance	4.8		Detection of deviations from process norms using event data [18]	Manual de d			
Professional 4.5 prices performed [8]. Social extension, analyzed: 4.55 price agaptificiate; Procession from the first process profession for the first process performed file. Social extension, analyzed: 4.55 price agaptificiate; Process Benchmark (March as a finite or process performed files). As (before fine and process performed files). As (before				Performance		Lis pro	Using event data for comparison of process behaviours and	Marrodu et al.			
Tod capabilities: Process Benchmarking insufficient process Benchmarking in full final process process and process							process performance [18].				
Realing enables results to improvement dates to achieve project pane 1 [18] Disabilities of the delanguage in process mining projects a offen that the control of the delanguage in process mining projects a offen that the control of the delanguage in process mining projects a offen that the control of the delanguage in process mining projects a offen that the control of the delanguage in process mining projects and the three forms and the delanguage in process mining projects and the three forms and the delanguage in process mining projects and the delanguage in process mining process mi	- 1			. Januarios			Insufficient prescriptive capabilities: PM tools are limited regarding				
Residing enables results to improvement dates to achieve project pane 1 (5) Stakeholder evaluation Substantian Substant	1		Social	Social network analysis			their mescriptive canabilities (21) No challences found				
State-office or process review for the collection of the collection of the collection on the process review projects in white the process and projects in white the process and projects in the first of the process and projects in the process and projects in the project of the proje	_		Com	mparitive analysis	4.11	/	No challenges found	/			
State-office or process review for the collection of the collection of the collection on the process review projects in white the process and projects in white the process and projects in the first of the process and projects in the process and projects in the project of the proje											
State-lating in-statement from process operating implications and in the first of the state of t					ation 5.1		goals [18].				
Missing involvement from process experts Missing involvement from process experts Manuals et al., Suriad et al. Universal content from process experts Universal c			Stake	Stakeholder evaluation							Additional to the Product Prod
Missing involvement from process experts Missing involvement from process experts Manuals et al., Suited et al. Universal process experts Manuals et al., Suited et al. Universal process execution 118.	5	s R	tesults				process analysts are not domain experts for the process they are		roughts with different wews, prepared in an understandable way for the stakeholders (presentation, etc.) [28], direct suggestions	Enthusiastic stakeholders who will continue to support PM in the	
Instinentiation 5.2 Using usined insinits to modify the actual process execution 118.						Evaluation	ameryang [xj, [xb], which means that they may have difficulties determining the causes of unexpected analysis results.		for improvement which should be made	ISLUE, LOCUMENSON	PM4KNIME (63)
Implementation 5.2 Process improvement and support Using gained insights to modify the actual process execution [18]. Manuals of all	- 1					Missing involvement from process experts	-	Mamudu et al., Bozkaya et al., Suriadi et al.			
Process ingressment and apport	- 1		lr.	Implementation	5.2		Using gained insights to modify the actual process execution [18].				
						Process improvement and support	,	Mamudu et al.			

			Sup	ports	Û	Sup	ports	}
	Stakeholder Support and Investment	6.1	Management support	Top-Level Management/Serior Executives support [18], [19]. Initiating, funding, and conducting PM initiatives requires a strong management commitment [21]. Process managers need guidance to convince decision-makers [22].	Mans et al., Manudu et al., Martin et al., Orisold et al.			
		6.2	External stalksholder support	Engagement with external collaborators or industry partners (such as suppliers) who influence an organisation's business process and how they are executed [18]. Transparency may lead to distrust and perceived surveillance [22].	Marrudu and Bandara, Grisold et al.			
		6.3	Subject matter experts (SMEs)	SMEs of a particular business domain who contribute to process mining efforts [18].	Mamudu and Bandara	Time, money, parassion and training (pendungs).	Informed and educated distinctions with an understanding of the importance of PM is the baseness and the PM project being importance of PM is the baseness and the PM project being importance.	manual fask. PRARONNE (IUS)
		6.4	User groups	The contribution of ultimate users (such as first-line personnel) to process mining outcomes [18].	Mamudu and Bandara			
6		6.5	Process mining expertise	The required know-how needed to execute process mining initiatives and interpret outcomes [18].	Mans et al., Mamudu and Blandara			
			Process analyst apportise	The required expertise for designing, streamlining, and re- engineering business processes [18], [19].				
		6.6		Insufficient analytical skills: The lack of fundamental analytical skills, including business process modelling and optimization, impedes deriving value from PM [21].				
				Insufficient domain expertise: The lack of comprehensive domain and business expertise inhibits the ability to customize PM as well as to adequately interpret the results [21].	Mans et al., Marrudu and Bandara, Martin et al.			
				The education and sensitisation of stakeholders on the appropriate execution of process mining initiatives for the intended results [18].				
		6.7	Training	Insufficient technical skills: The lack of sufficient training in technical skills required to implement PM is detrimental to setting up and conducting PM [21].	Marmodu et al., Martin et al.			
				The series of activities that ensure that the needed change				
	Organizational and strategic		Change Management	emanating from process mining results is im-plemented in the organisation [18].	Mamusta et al. Martin et al. Grischt et al.		These are general challenges and connents belonging PM. These rat a connecte phase mit in PM process. For the mason have see an otherschapts or Origans.	Artificial Intelligence Enabled Project Management [66]
7		7.1		Unclear organizational anchoring: It is unclear how PM expertise should be anchored within the organization [21].				
				It is important to cope with the increased transparency created through process mining [22].				
		7.2	Project Management	The management of activities and resources, such as time and cost throughout all phases of the process mining project to obtain the defined project outcomes [18], [19].	Mans et al. Marrudu et al.	not a concrete phase in the PM-process. For this reason there		
	alignment	7.3		It is unknown which organizational setups and properties ensure an efficient and effective use of PM [21].	Martin et al.	are no direct inputs or Outputs.		
		7.4	Unclear success factors	The business value of PM is difficult to determine with regard to the alignment of strategic and operational goals as well as the quantification of costs and benefits [21].				
			Busive business value	Process managers do not know how to calculate the business value of PM activities [22].				
		7.5	Missing implementation guidance	There is a lack of comprehensive guidance on the implementation of PM for different organizations, domains, contexts, and strategic goals [21].	Martin et al.			