

DCR Indicators

EcoKnow conference

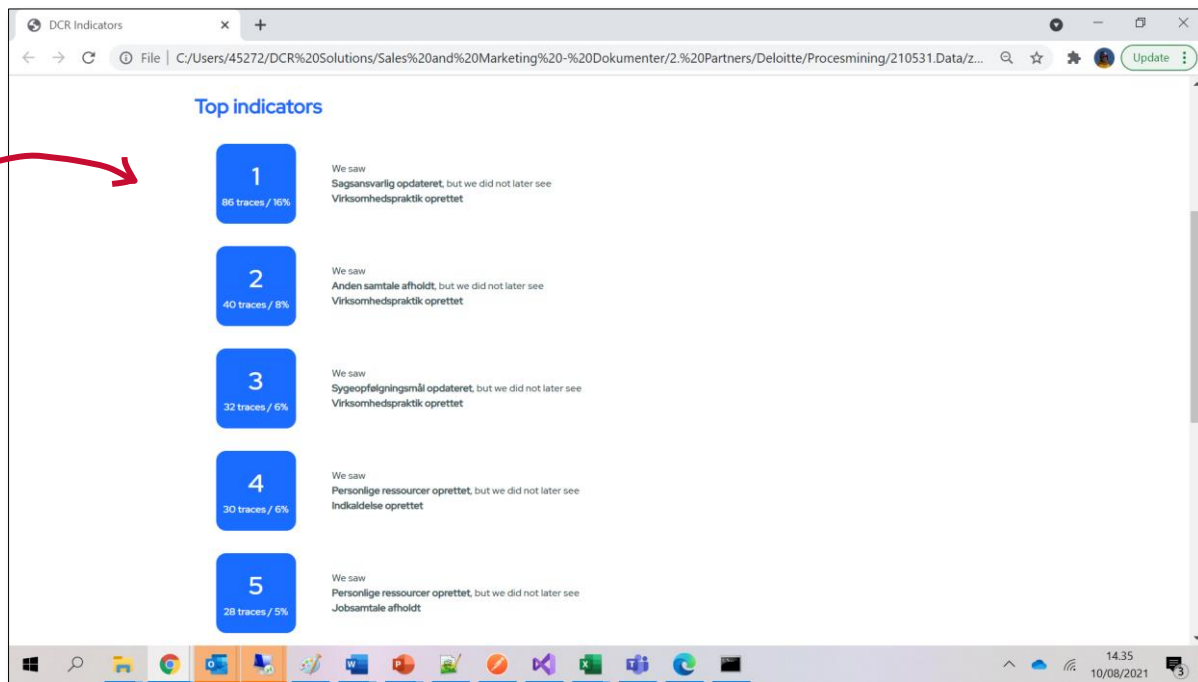
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We've built a process mining tool that can help identify the **TOP INDICATORS** of negative performance in processes...

THIS IS HOW THE
END RESULT LOOKS
(here from KMD
Momentum)



Rule discovery technology the open-source

DisCoveR by Tijs Slaats et. Al., KU (See also Tijs' earlier talk.)

Source code:

<https://github.com/tslaats/DisCoveR>

Back, C.O., Slaats, T., Hildebrandt, T.T. et al. **DisCoveR: accurate and efficient discovery of declarative process models**. Int J Softw Tools Technol Transfer (2021).

Nekrasaite V., Parli A.T., Back C.O., Slaats T. (2019) **Discovering Responsibilities with Dynamic Condition Response Graphs**. In: Giorgini P., Weber B. (eds) Advanced Information Systems Engineering. CAiSE 2019. LNCS, vol 11483. Springer, Cham.

 PROCESS MINING

Our top 1 indicator **matches one of the main findings** of previous reports in the area

REPORT FROM AARHUS UNIVERSITET AND VÆKSTHUSETS FORSKNINGSCENTER

Front page, 2017, "Sagsbehandlerens betydning for udsatte borgeres jobchancer"



Et sagsbehandlerskift hænger sammen med 1,3 procentpoints reduktion i chancen for at finde beskæftigelse. I det omfang den sammenhæng kan gives en kausal fortolkning, er det naturligvis en ganske betydelig negativ effekt i betragtning af, at kun seks procent af borgerne finder beskæftigelse i løbet af en periode på 52 uger, som vist i figur 2. Det svarer til en reduktion i chancen for at finde beskæftigelse på 22%.

MATCHING FINDING

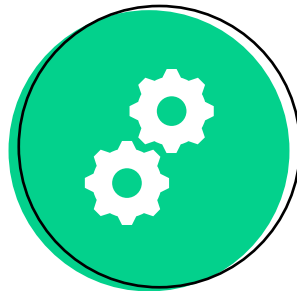
- Our **top indicator 1** matches one of the main conclusions of a large report from Aarhus University and Væksthusets Forskningscenter from 2017
- The tool can not only find more relevant indicators, but **continuously track identified indicators and find new**

Why is this tool **relevant and useful?**



DEFINE "GOOD AND BAD" PERFORMANCE FLEXIBLY

Define simple criteria for what a "positive" case run is - instead of building a large process model



FIND OPERATIONAL INEFFICIENCIES

Get a short-list of most important indicators of negative performance—a list of things to fix

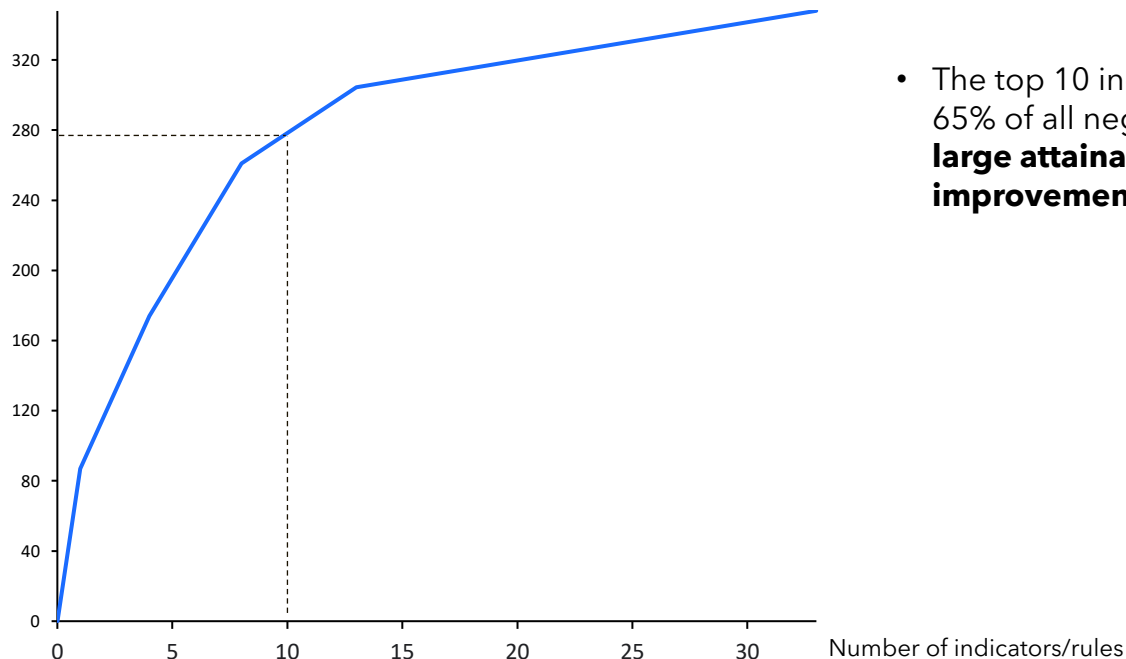


FOLLOW UP ON BEHAVIOR REAL-TIME

Follow up on how indicators of negative performance differ over time—and continuously get a new top list of things to fix

The **top 10 rules** characterise **65% of all negative case runs** mined in the KMD Momentum log file case

trace errors/negative case runs covered



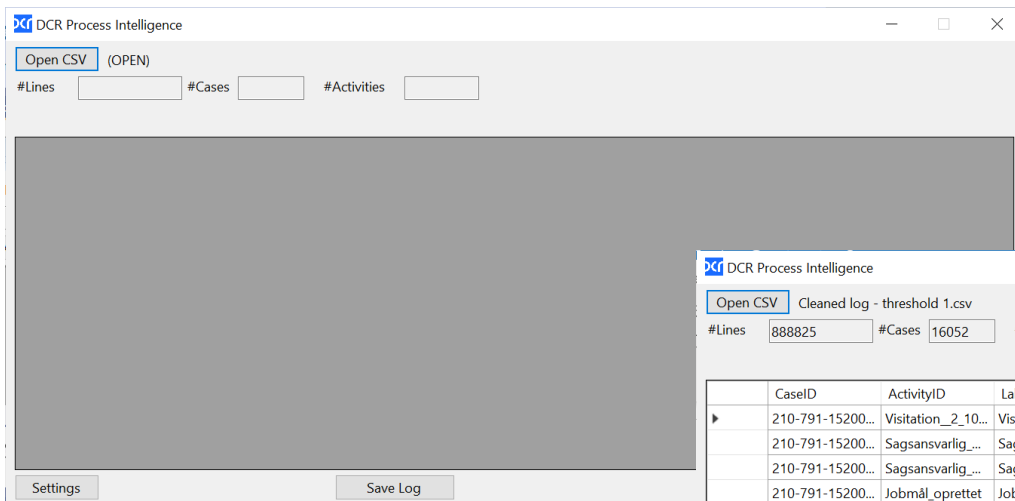
IMPROVEMENT POTENTIAL IDENTIFIED

- The top 10 indicators characterise a total of 65% of all negative case runs, suggesting a **large attainable operational improvement potential**

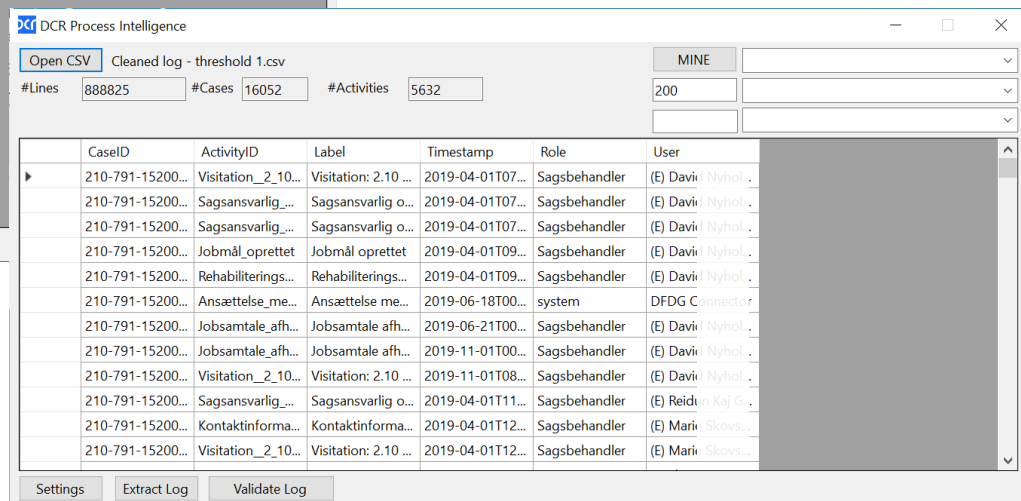
... and this is how it works

How to use it in four steps (1/2)

STEP 1: OPEN THE TOOL



STEP 2: LOAD THE LOG



How to use it in four steps (2/2)

STEP 3: DEFINE "POSITIVE CASE RUN"

DCR Process Intelligence

Open CSV Cleaned log - threshold 1.csv

#Lines 888825 #Cases 16052 #Activities 5632

MINE Samtale_i_rehabiliteringsteam_afholdt

200 Virksomhedspraktik_oprettet

CaseID	ActivityID	Label	Timestamp	Role	User
210-791-15200...	Visitation_2_10...	Visitation: 2.10 ...	2019-04-01T07...	Sagsbehandler	(E) Davi Nyhol...
210-791-15200...	Sagsansvarlig...	Sagsansvarlig o...	2019-04-01T07...	Sagsbehandler	(E) Davi Nyhol...
210-791-15200...	Sagsansvarlig...	Sagsansvarlig o...	2019-04-01T07...	Sagsbehandler	(E) Davi Nyhol...
210-791-15200...	Jobmål_oprettet	Jobmål oprettet	2019-04-01T09...	Sagsbehandler	(E) Davi Nyhol...
210-791-15200...	Rehabiliterings...	Rehabiliterings...	2019-04-01T09...	Sagsbehandler	(E) Davi Nyhol...
210-791-15200...	Ansættelse_me...	Ansættelse me...	2019-06-18T00...	system	DFDG Konn...
210-791-15200...	Jobsamtale_afh...	Jobsamtale afh...	2019-06-21T00...	Sagsbehandler	(E) Davi Nyhol...
210-791-15200...	Jobsamtale_afh...	Jobsamtale afh...	2019-11-01T00...	Sagsbehandler	(E) Davi Nyhol...
210-791-15200...	Visitation_2_10...	Visitation: 2.10 ...	2019-11-01T08...	Sagsbehandler	(E) Davi Nyhol...
210-791-15200...	Sagsansvarlig...	Sagsansvarlig o...	2019-04-01T11...	Sagsbehandler	(E) Reic on Kaj
210-791-15200...	Kontaktinforma...	Kontaktinforma...	2019-04-01T12...	Sagsbehandler	(E) Mar Sco
210-791-15200...	Visitation_2_10...	Visitation: 2.10 ...	2019-04-01T12...	Sagsbehandler	(E) Mar Sco

Settings Extract Log Validate Log

STEP 4: PRESS "MINE"

DCR Indicators

Positive case runs	93 (18%)
Negative case runs	435 (82%)

Top-10 indicators characterise **65%** of all negative case runs

Top indicators

