

1
2
3
4
5
6
7
8
9

10

11

Armchair Auditing of Insolvency Processes

Tom Akkermans
University of Amsterdam
tom.akkermans@student.uva.nl

ACM Reference Format:

Tom Akkermans. 2019. Armchair Auditing of Insolvency Processes. In *Proceedings of 2 (University of Amsterdam)*. ACM, New York, NY, USA, 4 pages. <https://doi.org/10.1145/nnnnnnn.nnnnnnn>

1 INTRODUCTION

When a company is declared bankrupt by the court, a court committee appoints an administrator to settle the bankruptcy. The administrator's task is to liquidate the company's estate and use the proceeds to settle the creditors claims. A supervisory judge ensures that the administrator is acting in the best interest of the creditors.

The supervisory function of the judge, the conflict of interest between the administrator and creditors and the appointment process of the administrator are processes which have been the subject of research [9], about which media articles have appeared [10, 11, 13] and which have led to legal proceedings

legal proceedings citation here

describe additional points of interest

The involved parties demand more transparency of these processes. Supervisory judges working in a reactive mode under the work pressure could benefit from data driven supervision. Information access to the general public and journalists to this processes would provide additional checks and balances to further process improvement.

The Dutch government started in 2005 publishing insolvency data [2] according to the insolvency law [3]. It provides an on-line search form [7] to retrieve a single insolvency case and provides open data web services to provide court publications and administrator reports in XML and PDF format. However, the information from a single insolvency case is limited as it does not provide aggregated and linked information. The administrator reports are unstructured and not searchable and not all interested parties can deal with the offered raw data APIs.

Instead of open data, there is a need for open analysis to enable 'armchair audits' [12] of insolvency processes. In this thesis we investigate **whether it is possible to build a complete and correct structured information system based on open and public data that is useful in that it enables such audits and search for non-technical users.**

We describe the steps in building such a system that takes in large amounts of open and publicly available data in structured and unstructured data form, extracts and enriches useful facts and makes it consumable for analysis to provide insights into the insolvency processes.

2 INFORMATION SYSTEM OVERVIEW

2.1 System components

Figure 1 gives an overview of the system components for sourcing, extracting, enriching and integrating the data and making the resulting structured and higher level information available to the user's analysis.

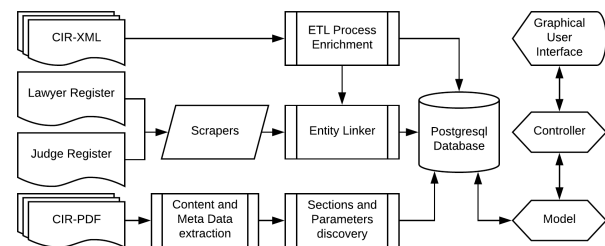


Figure 1: System overview.

Data flows from left to right through the following components:

Data Sources. Data is sourced from three public registers:

- (1) The Central Insolvency Register (*Centraal Insolventie Register* or *CIR*). CIR exposed both an XML and PDF file web service.
- (2) The Register of lawyers (*NOvA's Tableau*).
- (3) The Register of ancillary positions of judges. (*Register van nevenfuncties van rechters*)

The CIR provides the bulk of the data. The other two registers are used for the entity resolution of administrators and judges.

The ETL process and Enrichment. This component loads entities with selected data fields from the CIR XML data. The data is cleaned and enriched after which it is stored in a relational Postgresql database.

The Entity Linker. This component is responsible for linking judges and administrators in the CIR XML data to real life entities found in the judge and lawyer registers.

PDF processors. These component processes the CIR PDF reports to extract textual content and meta data. The text sections as defined in the progress report template and key data parameter are discovered in a subsequent process and loaded into the (Postgresql/Elastic) database.

Model-View-Controller (MVC). This well established pattern of subcomponents works together as a graphical interface for the user to analyse the data.

2.2 Description of data sources

2.2.1 Central Insolvency Register.

Armchair Auditing of Insolvency Processes

Data suppliers. The CIR [2] is operated by the state and contains company insolvency data supplied by the courts and the administrators. Courts are obliged to supply the insolvency data and free consultation thereof according to the insolvency law, article 19 [3]. CIR started the register on the 1st of January 2005 and retains insolvency cases until six months after the ending of the insolvency.

Entities. CIR data contain the following entities:

- Courts
- Court Publications
- Supervisory Judges
- Insolvency Cases
- Administrators
- Administrator Reports

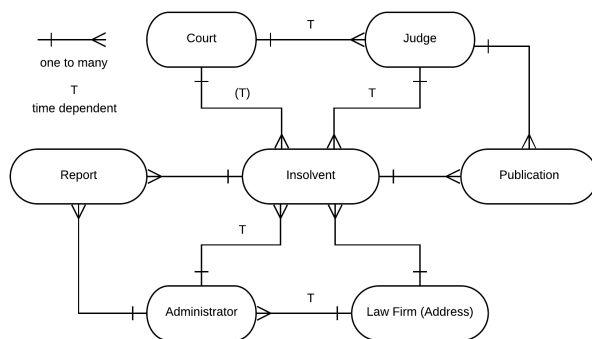


Figure 2: Insolvency entity relations.

remove law firm if not relevant. rename insolvent to insolvency

CIR data contents. Table 1 shows the content of the CIR register data as of date [2018-08-12] and the average monthly size of new additions.

Table 1: number of entity records and avg. monthly growth.

Entity	no. of records	delta
Insolvency	17,331	280
Report	146,865	4408
... progress report	87,430	
... financial attachment.	56,611	
Publication	37,031	1447
Administrator (distinct names)	2329	
Judge (distinct names)	451	
Court	11	

update numbers

Identifiers. The web service response in XML is semi structured data. It provides unique identifiers for Insolvency Cases, Publications and Reports which can be stored in normalized SQL tables.

The other entities Courts, Judges and Administrators have no identifiers but consist of free text fields for their name parts. These entities must be de-duplicated and linked to a real world entity.

Administrator Reports. A second web service operated by CIR provides Administrator Reports in PDF format that hold much of the unstructured data. There are two types of reports:

- (1) progress reports
- (2) financial attachments

Recofa has published templates for both report types[6].

2.2.2 Register of lawyers, NOvA Tableau. The NOvA tableau is the official register for lawyers and maintained by the *Nederlandse Orde van Advocaten (NOvA)*[5]. Lawyers are obliged to be registered in the tableau by the lawyer's law (*advocatenwet*, article 1 [4]). NOvA offers an on-line search form where key word search and filters can be applied to search for a lawyer. This data source is used to collect the master data for Administrators.

2.2.3 Register of judges, Nevenfuncties van rechters. The Register for ancillary positions for judges is made available by *de Rechtspraak*[1]. It offers an on line form and returns the name, current and historical occupation and ancillary positions. This data source is used to collect the master data for Judges.

REFERENCES

- [1] [n. d.]. Beroepsgegevens en nevenfuncties van rechters. <https://namenlijst.rechtspraak.nl>
- [2] [n. d.]. Centraal Insolventieregister. <https://insolventies.rechtspraak.nl>
- [3] [n. d.]. Insolvency Law - Faillissementswet. <http://wetten.overheid.nl/BWBR0001860/2018-07-01>
- [4] [n. d.]. Lawyer Law - Advocatenwet. <http://wetten.overheid.nl/BWBR0002093/2018-07-25>
- [5] [n. d.]. Nederlandse Orde van Advocaten. <https://www.advocatenorde.nl/over-de-nova>
- [6] [n. d.]. Recofa-richtlijnen. <https://www.rechtspraak.nl/Voor-advocaten-en-juristen/Reglementen-procedures-en-formulieren/Civiel/Insolventierecht/Paginas/Recofa-richtlijnen.aspx>
- [7] [n. d.]. Zoeken in het Centraal Insolventieregister. <https://insolventies.rechtspraak.nl/#/zoeken/index>
- [8] 2017. *Klantwaardering Rechtspraak 2017*. Technical Report.
- [9] Burak Bölük. 2011. *Is de benoeming van de curator door de rechtbank en het toezicht op de curator door de rechter-commissaris aan een verbetering toe?* Master's thesis.
- [10] Dennis Meneer. 2017. Curatoren vluchten uit lege boedels. <https://www.ftm.nl/artikelen/curatoren-slaan-op-de-vlucht-voor-lege-boedels> Accessed on 2018-06-14.
- [11] Dennis Meneer. 2018. Dit is de schadelijkste wet van Nederland. <https://www.ftm.nl/artikelen/faillissementswet-schadelijkste-wet-van-nederland> Accessed on 2018-06-14.
- [12] Daniel E. O'Leary. 2015. Armchair Auditors: Crowdsourcing Analysis of Government Expenditures. *JOURNAL OF EMERGING TECHNOLOGIES IN ACCOUNTING* 12 (jul 2015), 71–91. <https://doi.org/10.2308/jeta-51225>
- [13] Jan-Hein Strop. 2015. De schimmige benoeming van curatoren. <https://www.ftm.nl/artikelen/de-schimmige-benoeming-van-curatoren> Accessed on 2018-06-14.