

Law research impact was quantified using a weighted model, where the democratic period and constitutional court were seen as significant factors of influence when looking at influential authors being cited.

Impact of law research in South African courts

INTRO

- Judgments recorded in the South African law journal of *Fonte Juris* cite authors and publications from the period 1825 to 2015. The project aims to extract author, court and judgment information to determine the relationship between authors and judgments and how law research impacts South African courts. A network and weighted model were used to quantify this relationship and determine the most influential authors.

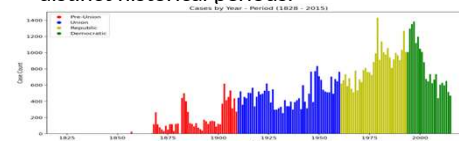
METHODS

- Data mining from the pdf law journals.
- Develop bipartite network model and weighted model.
- Validate the results with the two created models

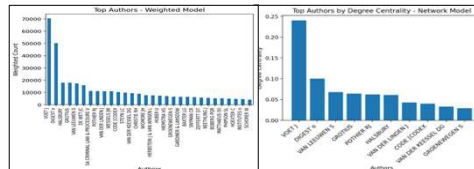
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RESULTS

- Citation count over the course of the distinct historical periods.



- Top authors ranked using the weighted and network model.



DISCUSSION

- The bipartite network model uses the degree centrality metric to determine author influence in courts. The limitation of not considering later historic periods and court hierarchy as parameters lead to the weighted model, which when assigning higher weights to later periods and constitutional courts yields a representative model in determining which authors play a significant role in SA courts.

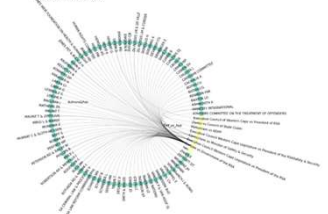
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- Critical to model development was the text extraction process to output usable data. Text overflow and character type were programmed in the model algorithm where the results of court, author, publication, judgment and year were outputted in a tabular format.

```

M: char_margin
  -M
  0 0 0 0
  -M
W: word_margin
  -M
  0 0 0 0
  -M
L: line_margin
  -M
  0 0 0 0
  -M
line_overlap
  -M
  0 0 0 0
  -M
  
```

- The network model segregated two groups, authors and judgments and degree centrality showed impact of authors.



- Noting author and court significance from 3d plots per court, a weight matrix was drawn up for court hierarchy and periods in SA history. Authors prevalent in later periods and higher courts were seen as those having a greater impact.

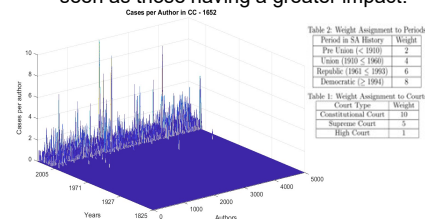


Table 2: Weight Assignment to Periods

Period in SA History	Weight
Pre Union (< 1900)	2
Union (1900 < 1960)	4
Republic (1961 < 1994)	6
Democratic (> 1994)	8

Table 3: Weight Assignment to Courts

Court Type	Weight
Constitutional Court	10
Supreme Court	5
High Court	1



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