

What Do You Call Your Analytical Endeavours

An Analysis of Term Usage in German Job Openings from 2017 to 2022

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Motivation

- Procedures used for data analysis to support decision-making in a business context have existed for decades [4] [6].
- Over time, different terms for such Analytical Information Systems (AIS) have emerged.



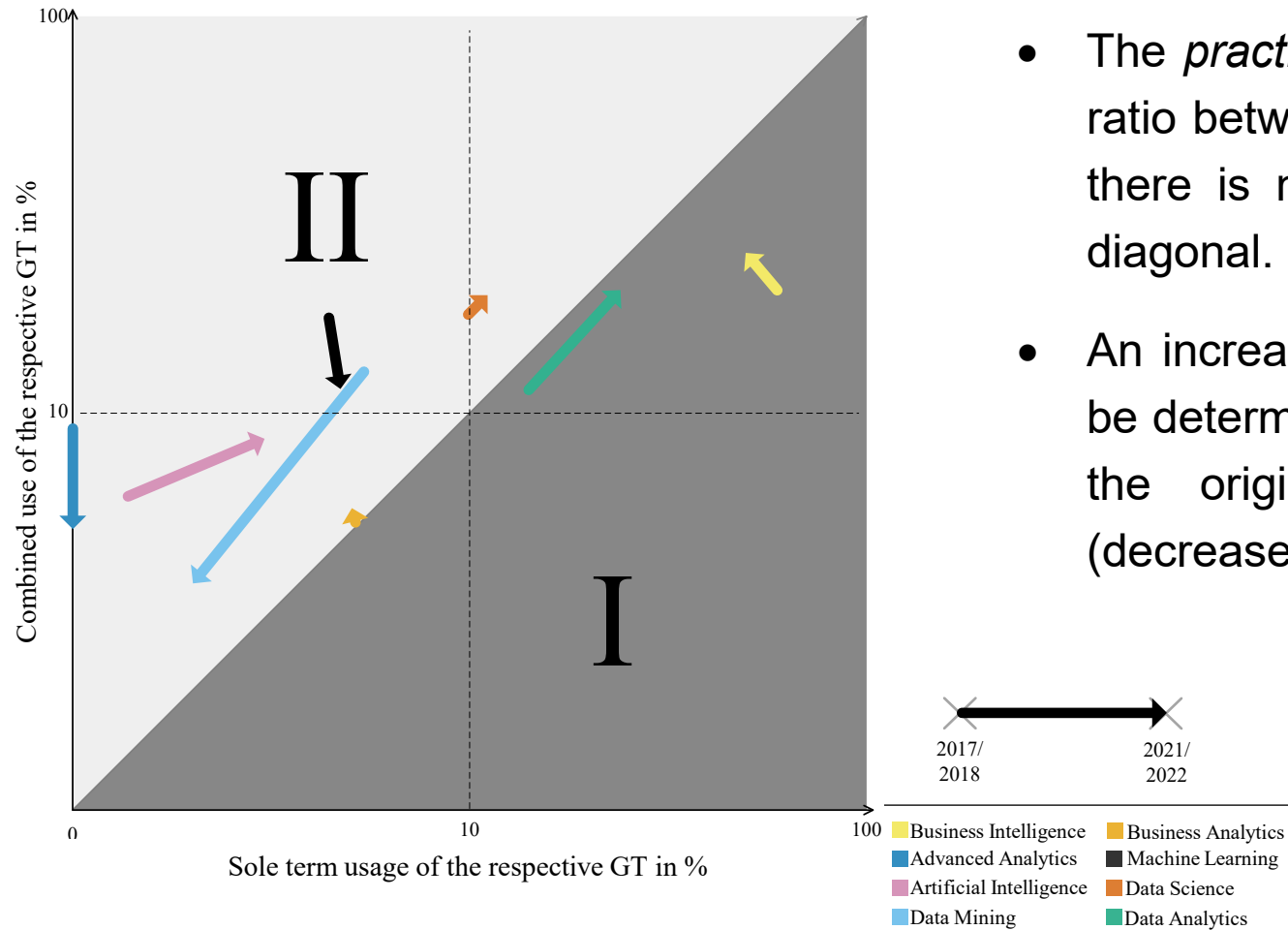
Motivation

- This article analyzes which terms are used for AIS in business practice.
- German job openings from 2017 to 2022 are used for the analysis.
- It is assumed that job openings are a suitable source of data, as
 - (a) they contain current data and
 - (b) companies need to formulate tasks and requirements for applicants realistically in order to find suitable employees [14].
- The aim of this work is to identify the **Generic Terms (GT)** used currently in business practice. These are determined with the help of a frequency analysis.
- In addition, the relationship between the GT and the changes in term usage over time are examined.

Data Basis

- 500 Job openings were collected once a year from 2017 to 2022 on the largest job portals in Germany.
- "analy*" was used as the search term, with the asterisk replaced by any string that combined to form a German- or English-language word.
- Only job openings in which the entered term was mentioned in the job title and which were written in German were considered.
- Job openings that clearly did not fall into the area of analysis were eliminated from the following investigations.
- Only terms that appear in more than 5% of all job openings were considered relevant GT.

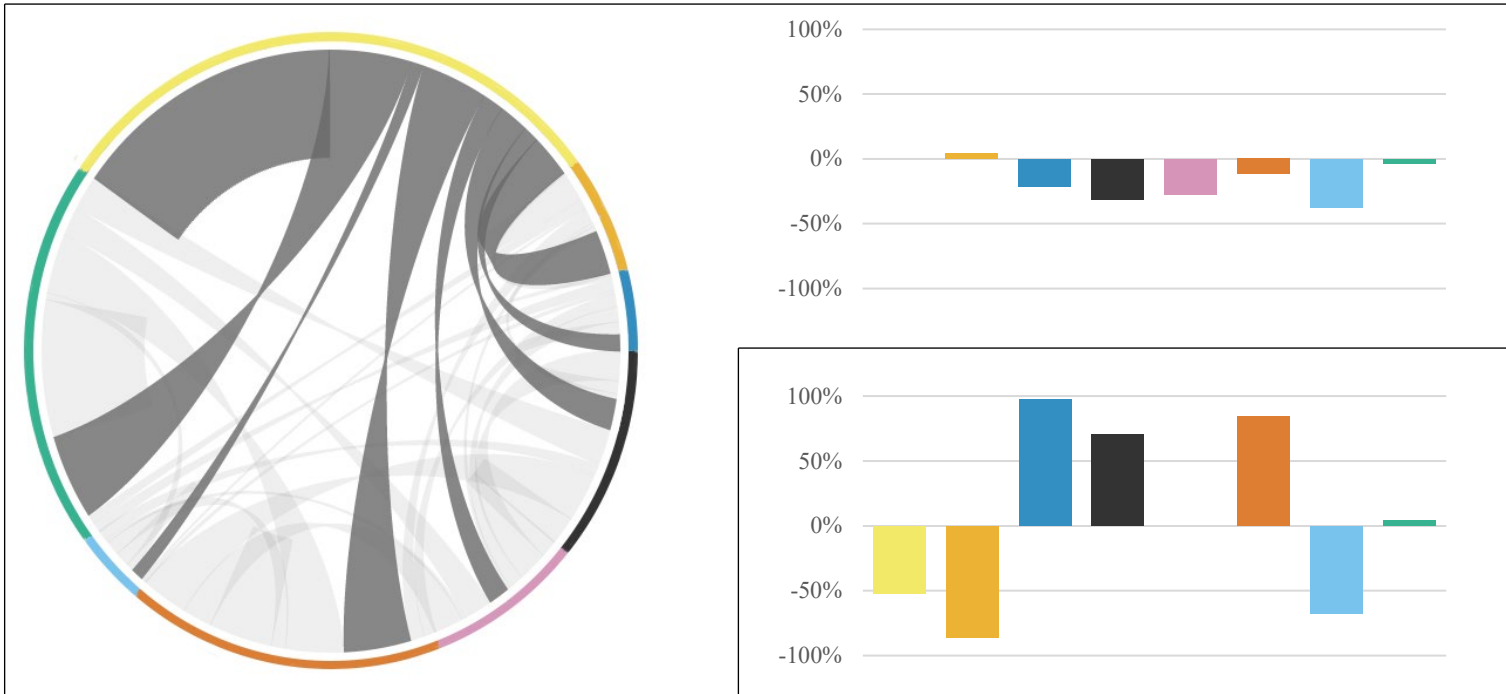
Descriptive Data Analysis



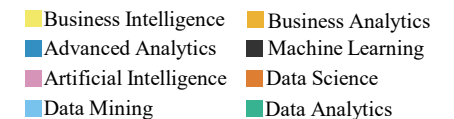
- The *practice definition* of GT is said to be stable if the ratio between sole and joint use does not change, i.e., there is no shift over time or a shift parallel to the diagonal.
- An increase (decrease) of the *practical relevance* can be determined by the fact that the distance of an GT to the origin of the coordinate system increases (decreases).

Descriptive Data Analysis

Business Intelligence



Artificial Intelligence



The Figure uses Chord diagrams for the years 2021/2022 to show which GT appear in the job openings in combination with which other GT. The bar charts show the deviation of the identified individual relationships from the relationships when all GT are considered (a priori probability).

Future Research

- The job openings contain further information that allow a better understanding of the focus and developments of the use of AIS in operational practice. This includes the qualifications required of applicants in the various phases of data analysis, the analysis software skills needed, and the planned areas of application and types of tasks.
- Frequently, the ads also name the driving developments underlying the analytics desire (e.g., digitalization, Industry 4.0, or Internet of Things). It is planned to extract and cluster this information so that its relevance can be determined and significant changes over time can be shown.
- This more detailed investigation will also make it possible to work out more concretely how the GT under consideration are used in operational practice. On this basis, an attempt can then be made to explain the shifts in practice definition and relevance presented in this article and to determine whether there has been a fundamental change in data analysis for decision support or whether it is simply a shift in the trend of terms used.

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