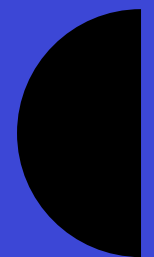**Topic Outline**

workflow

1. Identify the problem, understand background

2. Research on 'analytical' jobs

3. Define analytical jobs

4. Identify analytical jobs from the data

5. Analyze gender ratio

approaches to define analytical jobs

Approaches

1. Create an index by combining certain variables from the O∗NET database

2. Break "analytical" into constituent parts and report individually

3. Define by the term 'analytical', by examining job description and required skills

Rationale behind approach

After research in labor market, I found as new business models and rapid technological development, there appear more and more jobs that requires analytical skills, in this way, we cannot identify analytical jobs by merely job titles, but from job description and skills required for the job.

Assumptions

The job descriptions in the O*NET dataset are accurate and contain full information, and can be used in identification of analytical jobs.

Approaches in future

- More research on relevant keywords for job descriptions of 'analytical' jobs
- Create dashboard to show clients

Analytical Definition

Analytical describes the process to draw meaningful conclusions from data, information or facts. Jobs contain this process can be identified as analytical jobs.

Unexpected analytical occupations:

- Logisticians
- Accountants and Auditors
- Training and Development Specialists
- Health Educators
- Community Health Workers
- Librarians
- check full list

Analytical skills

- Research
- Forecasting
- Problem-solving
- Data mining
- Data and metrics interpreting
- Reporting
- Organization
- Communication
- Diagnostics
- Troubleshooting
- Creativity
- Theorize
- Brainstorm
- Analysis
- Analyze

- Programming
- Discover
- logical reasoning
- critical thinking
- data analysis
- creativity

the list helps understand analytical jobs and identify relevant keywords in analytical job descriptions

45.35%

*employees are females in 143 analytical jobs, which accounts for 17.6% of total jobs provided by O*NET resource center. In contrast, 49.27% employees are female in all occupations*

Thus, we can tell there are less females in analytical positions

Analytical jobs with most female employees are not traditional technical jobs

- Human Resources Assistants
- Industrial-Organizational Psychologists
- Compensation, Benefits, and Job Analysis Specialists
- Librarians
- Paralegals and Legal Assistants
- Audiologists
- Phlebotomists
- Dietitians and Nutritionists

- Mechanical Engineers
- Computer Network Architects
- Tool and Die Makers
- Computer Network Architects
- Electronics Engineers
- Architectural and Engineering Managers
- Aerospace Engineers
- Engineers, All Other
- Atmospheric and Space Scientists

Jobs with least female employees require more technical skills

Evaluation of approach

Strength

- Break bias and fixed perspective of analytical jobs by identifying analytical skills and content from the job descriptions
- Research is based on the latest articles in analytical labor market

To be improved/what's next

- Conduct more research on keyword selection for analytical job descriptions
- Discover more data sources
- Investigate further on the technology required for each job

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