Market Analysis For a product(Resume Strength Analyzer)

In [ ]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [47]:
```
# Example data (replace this with real data)
job_seeker_data = {
    'Age': [18,30, 28, 22, 35, 29, 31, 24, 26, 27, 40, 19, 23, 41],
    'Education Level': ['Bachelor', 'Master', 'Bachelor', 'PhD', 'Bachelor', 'Master', 'Bachelor', 'Master', 'Bachelor', 'Bachelo
    'Years of Experience': [2, 5, 3, 1, 7, 4, 6, 2, 3, 4,0,2,0,1],
    'Job Industry': ['IT', 'Finance', 'Marketing', 'Engineering', 'Healthcare', 'IT', 'Finance', 'Marketing', 'Engineering', 'Hea
    'Searching_for_job': ['Yes','Yes','Yes','Yes','Yes','Yes','No','No','Yes','Yes','Yes','No','Yes','Yes'],
    'Resume Strength Score': [75, 90, 80, 60, 85, 70, 88, 82, 78, 92, 65,68,88,75]
}
df1= pd.DataFrame(job_seeker_data)
df1
```

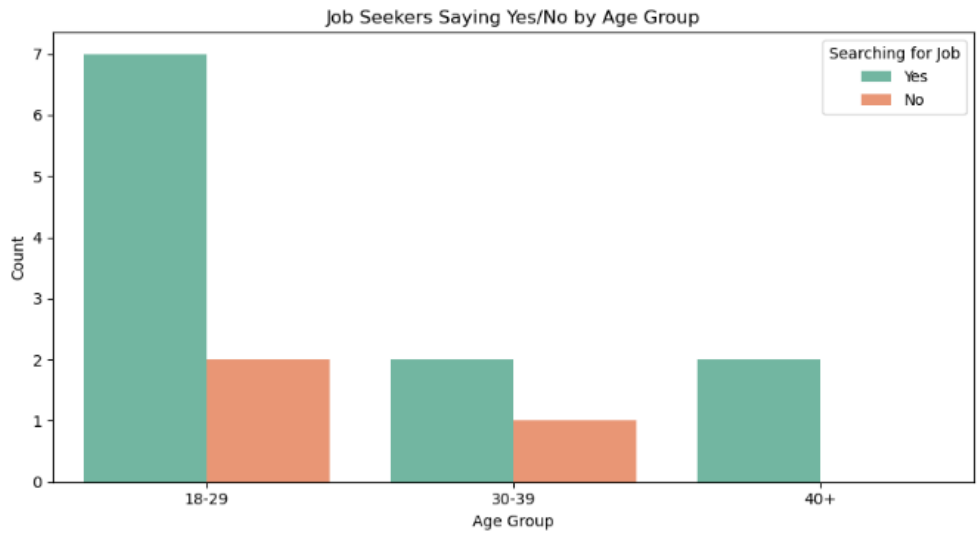
Out[47]:

	Age	Education Level	Years of Experience	Job Industry	Searching_for_job	Resume Strength Score
0	18	Bachelor	2	IT	Yes	75
1	30	Master	5	Finance	Yes	90
2	28	Bachelor	3	Marketing	Yes	80
3	22	PhD	1	Engineering	Yes	60
4	35	Bachelor	7	Healthcare	Yes	85
5	29	Master	4	IT	Yes	70
6	31	Bachelor	6	Finance	No	88
7	24	Master	2	Marketing	No	82
8	26	Bachelor	3	Engineering	Yes	78
9	27	Bachelor	4	Healthcare	Yes	92

Generating a sample dataset of jobseekers so that we can perform the same analysis on real life datasets.

Segmenting status of seeking jobs by Age

```
# Create a cluster plot
plt.figure(figsize=(9, 5))
sns.countplot(data=df1, x='Age Group', hue='Searching_for_job', palette='Set2')
plt.title('Job Seekers Saying Yes/No by Age Group')
plt.xlabel('Age Group')
plt.ylabel('Count')
plt.legend(title='Searching for Job')
plt.tight_layout()
plt.show()
```



We can see that overall people are actually looking for jobs and also this also prevails over different age groups.

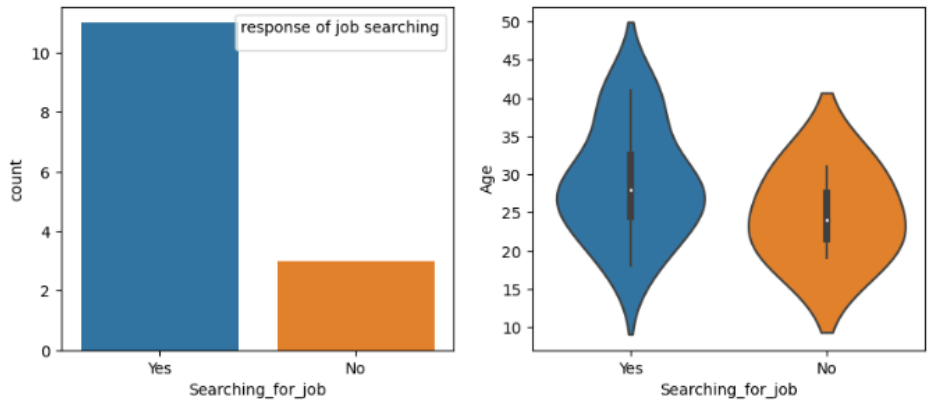
We can therefore target job seekers to sell our product.

```
n [59]: plt.figure(figsize=(10,4))
        plt.subplot(1, 2, 1)
        sns.countplot(data=df1,x=df1.Searching_for_job)
        plt.legend(title='response of job searching')

        plt.subplot(1, 2, 2)
        sns.violinplot(y='Age',x='Searching_for_job',data=df1)
```

```
No artists with labels found to put in legend.  Note that artists whose label start with an underscore are ignored when legend
() is called with no argument.
```

```
ut[59]: <Axes: xlabel='Searching_for_job', ylabel='Age'>
```




```
# Display analysis results
print(f"Average Age: {average_age:.2f}")
print(f"Percentage of Job Seekers Searching for a Job: {percentage_searching:.2f}%")
print("\nEducation Level Distribution:")
print(education_distribution)
print("\nJob Industry Distribution:")
print(industry_distribution)
```

```
Average Age: 28.07
Percentage of Job Seekers Searching for a Job: 78.57%

Education Level Distribution:
Education Level
Bachelor    7
Master      5
PhD         2
Name: count, dtype: int64

Job Industry Distribution:
Job Industry
IT             3
Marketing      3
Engineering    3
Healthcare     3
Finance        2
Name: count, dtype: int64
```

From here we can also see that percentage of job seekers are more than 75 percentage , so it will be better to target them as they may require resume strength analyser to analyse their resume ,find their weak points or can make their resumes more better .

Target Audience:

Determine who could benefit the most from your Resume Strength Analyser. Possible segments could include:

Job Seekers: This could range from recent graduates to experienced professionals looking for new opportunities.

Career Changers: Individuals transitioning to a new field who need to highlight transferable skills.

Students: Students preparing their first resumes for internships or entry-level positions.

Freelancers: Freelancers aiming to showcase their skills and experience on their resumes.

Return-to-Work Individuals: Those re-entering the workforce after a gap, who need help addressing employment gaps.

Certainly, let's dive deeper into each of the market segments for a resume strength analyzer project:

1. Job Seekers:

- *Recent Graduates:* These are individuals who have recently completed their education and are entering the job market for the first time. They may need assistance in highlighting their academic achievements and transferable skills.
- *Experienced Professionals:* This segment includes professionals with several years of work experience. They may require help in showcasing their extensive career history and expertise effectively.
- *Job Hoppers:* People who frequently change jobs may struggle to present their experiences cohesively. They might need tools that can help them demonstrate the value of their varied experiences.
- *Career Changers:* Those looking to transition into a different industry or role may need assistance in emphasizing transferable skills and downplaying irrelevant experience.

2. HR Professionals and Recruiters:

- *Corporate HR:* HR departments in large companies can benefit from tools that streamline the screening and evaluation of a large number of resumes. Efficiency in this process is crucial.
- *Recruitment Agencies:* Agencies that help companies find suitable candidates often deal with diverse resumes. They need tools to quickly identify the best fits for their clients.
- *Small Business Owners:* Entrepreneurs and small business owners involved in the hiring process themselves may need user-friendly resume analyzers to make informed hiring decisions.

3. Educational Institutions:

- *Universities and Colleges:* Career centers and placement offices within educational institutions can use resume analyzers to equip their students and alumni with valuable career development resources.
- *Online Learning Platforms:* Organizations offering courses in resume building and career development can integrate resume analyzers as a value-added service.

4. Career Coaches and Consultants:

- *Individual Coaches:* Independent career coaches often work one-on-one with clients to optimize their resumes. An efficient resume analyzer can support their services.
- *Consulting Firms:* Larger consulting firms that provide career development services to corporate clients can use resume analyzers to enhance their offerings.

5. Government and Non-Profit Organizations:

- *Unemployment Agencies:* Government agencies that assist job seekers in finding employment can utilize resume analyzers to help candidates improve their job prospects.
- *Non-profits:* Organizations focused on workforce development and assisting disadvantaged individuals in finding employment can incorporate resume analyzers into their programs.

6. Language and International Market Focus:

- *Multilingual Support:* Providing resume analysis in different languages caters to a global audience.
- *Global Market:* Different countries have varying resume formats and cultural norms. Adapting the tool to these differences is crucial for international success.

7. Tech-Savvy Users:

- *Early Adopters:* These individuals are quick to embrace new technology. They may be interested in cutting-edge features, such as AI-driven resume analysis.
- *Tech Professionals:* Those in the technology industry may have unique resume requirements and seek specialized analysis.

8. Freemium vs. Premium Users:

- *Free Users:* Offering a basic, free version of the tool can attract a broad user base.
- *Premium Users:* Providing advanced features, personalized recommendations, and more comprehensive resume analysis can cater to users willing to pay for premium services.

9. Industry Focus:

- *Healthcare:* Healthcare professionals require specialized resume analysis to highlight certifications, licenses, and clinical experience.
- *IT:* IT professionals with technical resumes may need tools that can dissect their technical skills and projects effectively.
- *Creative Industries*: Individuals in creative fields like design, art, and writing might benefit from a resume analyzer that emphasizes their portfolio and creative achievements.

10. Age Groups:

- *Young Professionals:* Individuals in their 20s and 30s may need guidance on building their first professional resumes.
- *Mid-Career:* Those in their 40s and 50s may require assistance in updating their resumes to reflect their extensive experience.
- *Retirees/Returning to Work:* People re-entering the workforce after retirement may need support in highlighting their skills and addressing employment gaps.

By addressing the unique needs of each of these market segments, your resume strength analyzer project can better serve a diverse range of users and gain a competitive edge in the market. Tailoring your product and marketing strategies to these segments will enhance its overall effectiveness.

Financial Equation for the Resume Strength Analyzer:

Creating a numerical rating system for a resume strength analyzer involves assigning scores to various aspects of a resume and calculating an overall score that represents the resume's strength. Here's how you might design such a rating system:

Components of the Resume Strength Rating System:

1. **Content Analysis:**
    - **Keyword Relevance:** Assign a score based on the number of relevant keywords present in the resume.
    - **Experience Highlights:** Score the clarity and impact of the candidate's job descriptions and accomplishments.
    - **Education and Skills:** Rate the effectiveness of education and skills sections in highlighting relevant qualifications.
2. **Formatting and Presentation:**

- **Readability:** Score based on readability metrics like sentence length and complexity.
- **Consistency:** Rate the consistency of formatting, fonts, bullet points, and headings.
- **White Space:** Assign a score based on effective use of white space for readability.

3. **Alignment with Industry Standards:**
    - **Industry-specific Buzzwords:** Score based on the inclusion of relevant industry terms.
    - **Format Conventions:** Assign a score if the resume follows common format standards.
4. **Quantifiable Achievements:**
    - **Numbers and Metrics:** Rate the presence of quantifiable achievements in the resume.
5. **Action Verbs and Power Words:**
    - **Action-Oriented Language:** Assign a score based on the use of strong action verbs and descriptive words.

Calculating Overall Rating:

1. Assign weights to each aspect of the resume based on their importance. For example, keyword relevance might have a higher weight if it's crucial for applicant tracking systems.
2. Assign scores (out of a predefined maximum) to each aspect based on predefined criteria and user input.
3. Multiply the scores by their respective weights.
4. Sum up the weighted scores to calculate the overall resume strength rating.

User Interaction:

Display the individual scores and the overall rating to the user. Provide explanations for each score and actionable recommendations for improvement.

Interpretation:

- Higher overall rating indicates a stronger resume.
- Users can identify areas that need improvement based on low scores in specific aspects.

Iterative Improvement:

Continuously refine the rating system based on user feedback and updates to industry standards.

Remember that the effectiveness of the rating system depends on its accuracy in reflecting resume quality. It's important to calibrate the scoring criteria and weights based on user preferences and industry norms. Additionally, offering qualitative feedback alongside numerical scores can enhance the usefulness of the tool.

Here's simplified equation to represent a possible resume strength rating ,

Resume Strength Rating = (w1 × Keyword Relevance) + (w2 × Experience Highlights) + (w3 × Education and Skills) + (w4 × Readability) + (w5 × Consistency) + (w6 × White Space) + (w7 × Industry-specific Buzzwords) + (w8 × Format Conventions) + (w9 × Quantifiable Achievements) + (w10 × Action-Oriented Language)

Where:

- w1 to w10 are the weights assigned to each component.
- Keyword Relevance, Experience Highlights, Education and Skills, Readability, Consistency, White Space, Industry-specific Buzzwords, Format Conventions, Quantifiable Achievements, and Action-Oriented Language are the scores assigned to each aspect.

The sum of these weighted scores will provide an overall resume strength rating. Adjusting the weights allows you to emphasize certain aspects more than others based on their significance.