جامعة مصر للمعلوماتية
EGYPT UNIVERSITY OF INFORMATICS

Egypt University of Informatics
Computer and Information Systems
Data Analysis Course

The Analysis of the Impact of Internships on Skill Development among College Students

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Introduction

Internships are a vital component of the college experience, providing students with invaluable opportunities to gain real-world experience, develop practical skills, and explore potential career paths. Understanding the impact of internships on students' skill development and career readiness is essential for educators, employers, and policymakers alike. This report delves into the significance of internships in shaping the professional trajectory of college students and examines the effectiveness of internship programs in preparing students for the workforce.

Research Question

Does Internships have an impact on Skill Development among College Student?

Hypothesis

It is hypothesized that participating in internships positively correlates with the acquisition of practical skills relevant to desired career fields among college students. Specifically, individuals who engage in internships are expected to report higher levels of skill development compared to those who do not participate in such opportunities.

Population of Interest

The population of interest encompasses college students across various academic disciplines and years of study.

Sampling Method

The sampling method I used here is what is known as simple random. This is where a random sample of the population is selected to answer these questions.

Bias Identification

In designing the survey, efforts were made to minimize potential biases. We ensured clarity and neutrality in survey questions to avoid leading responses. Additionally, the survey was piloted with a small group of students to identify and address any biases before distribution to the larger population.

Survey Questions

1. Have you participated in any internship during your college years?
2. If yes, how much internship have you completed?

3. What were the primary objectives of your internships? (Select all that apply)
4. Did your internships align with your career goals and aspirations?
5. How would you rate the overall impact of your internships on your acquisition of practical skills relevant to your desired career field? (Scale: Minimal impact (1) - Significant impact (5))

Online survey link:
https://docs.google.com/forms/d/e/1FAIpQLSfUBUiBDzlI5L8leTr1S8cKD_ls46kBR1n9IjJe9nDTV-VP4Q/viewform?usp=sf_link

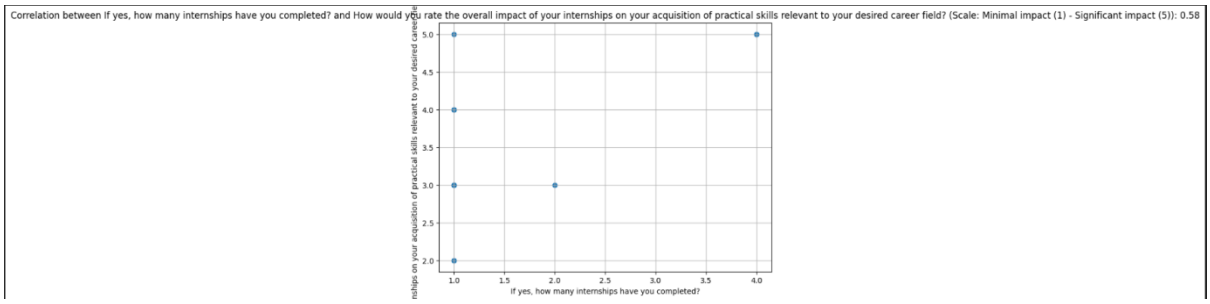
Number of samples collected: 30

Analysis:

To analyse the data collected from this survey, we will calculate basic descriptive statistics such as the mean, median, and mode:

```
Mean of Age:  18.403333333333332
Mean of Rate:  3.55
Median of Age: 19.0
Median of Rate: 3.0
Mode of Age: 19.0
Mode of Rate: 3.0
```

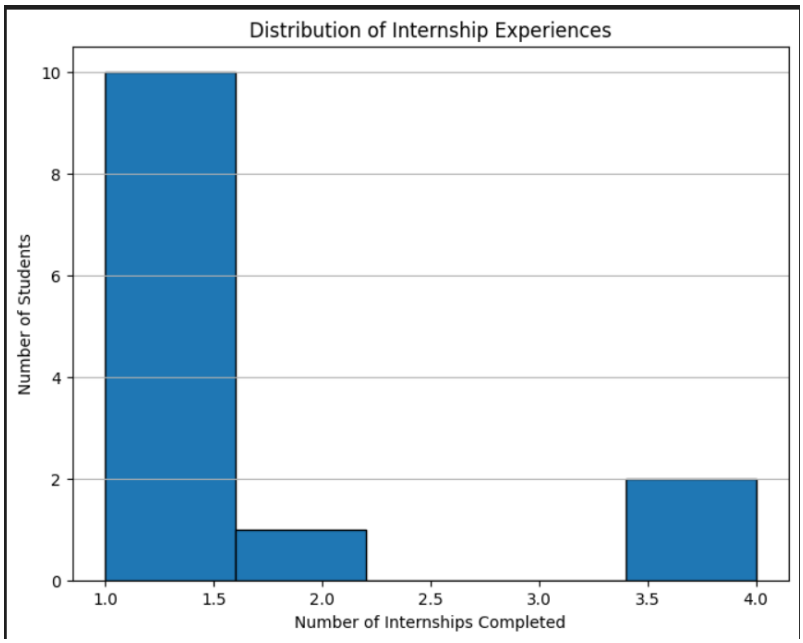
We will also create visual representations of the data using charts and graphs to help identify any trends or patterns.



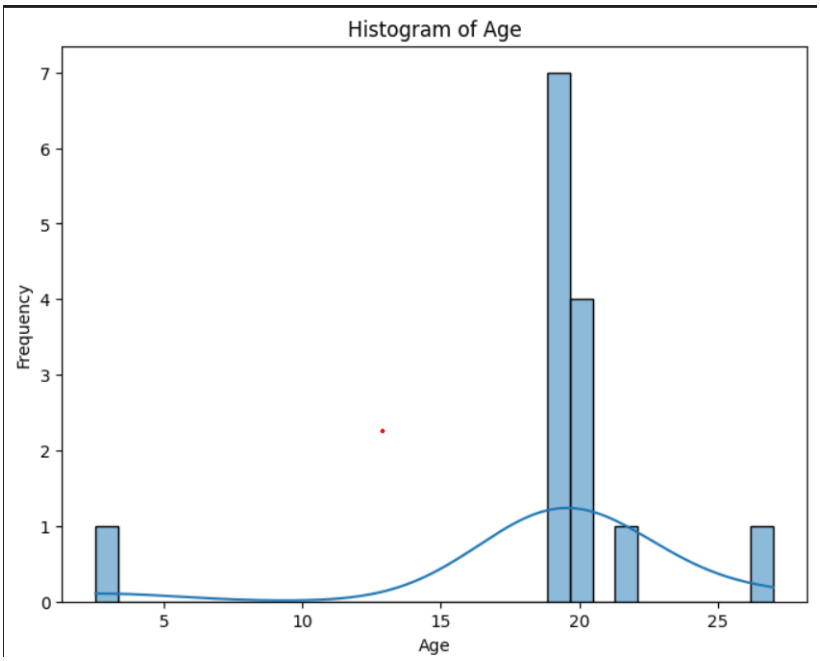
Correlation is: **0.5543196128553987**

*the data points are likely scattered, indicating the relationship is not very strong. There might be people with a high number of internships who didn't rate the impact highly, and vice versa

Quantitative Variables Analysis:

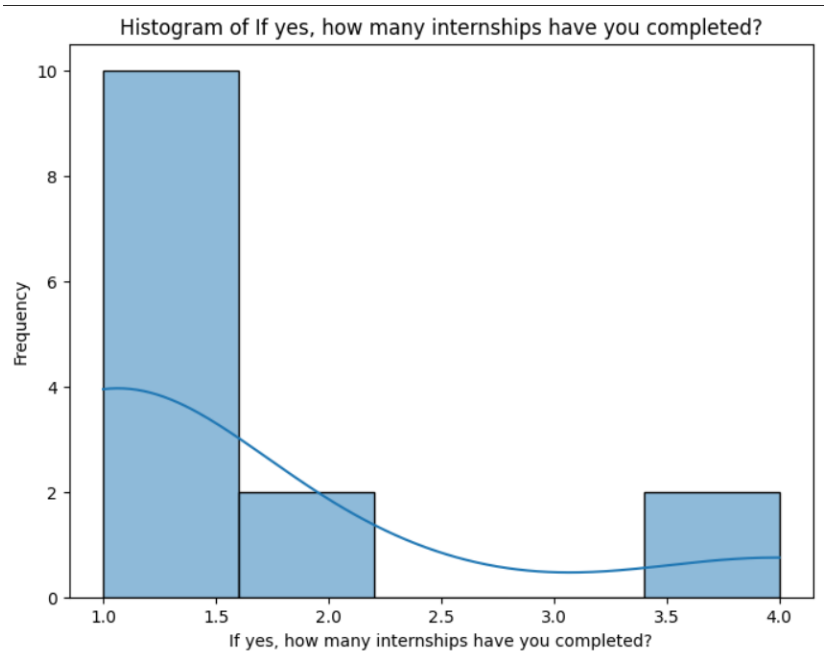


The graph suggests that a significant portion of the students haven't participated in internships (0 internships), while a smaller proportion have participated in one or more internships. It's difficult to say definitively how much internship are "typical" or "common" based on this graph alone.



This histogram provides a visual overview of the age distribution in the data set. It shows how many people fall into different age groups. By looking at the bar heights, you can get a sense of which age groups are more or less prevalent in the data

The histogram suggests that the internship program was successful in helping interns acquire practical skills relevant to their desired career field. However, it is important to note that this is just a small sample size, and we cannot draw any definitive conclusions from this data.



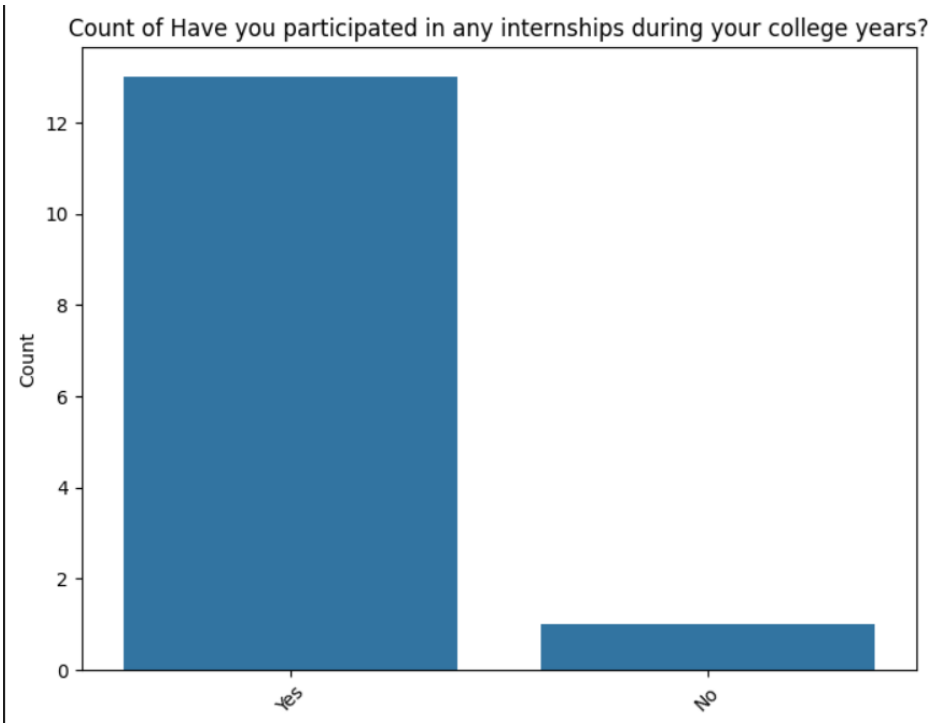
Based on the histogram, it appears that most people responding to the survey did not complete any internships in the past year. The highest frequency is at 0, which means more people responded that they did not complete any internships than any other category.

Here's a more detailed breakdown of the data visible in the graph:

- **0 internships:** This was the most common response, with 10 people responding that they did not complete any internship.
- **1 internship:** There were 8 people who responded that they had completed 1 internship.
- **2 internships:** 4 people responded that they had completed 2 internships.
- **3 internships:** There were 2 people who responded that they had completed 3 internships.

- **More than 3 internships:** It appears that 2 or fewer people responded that they had completed more than 3 internships. The exact number is difficult to determine because the data points for 4 and above are grouped together.

Categorical Variables Analysis:

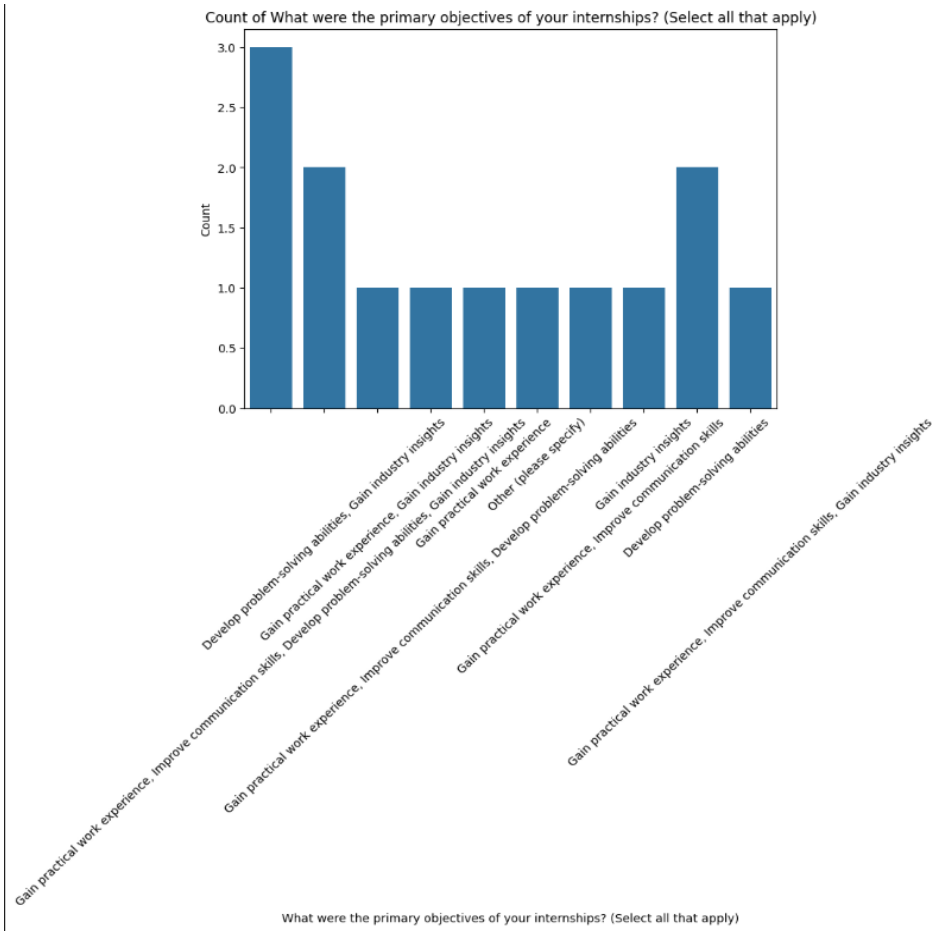


There are more students who responded yes (10) than no (2) according to the graph. This suggests that internships are a popular choice among the students who responded to this survey.

Here are some additional points to considered when analyzing the graph:

- The sample size is small. With only 12 respondents, it is difficult to draw general conclusions about the entire student population.
- The graph doesn't tell us anything about the quality of the internships or how beneficial the students found them to be.
- The survey question only asks if students participated in internships, it doesn't ask how much internship they participated in. “potential issue”

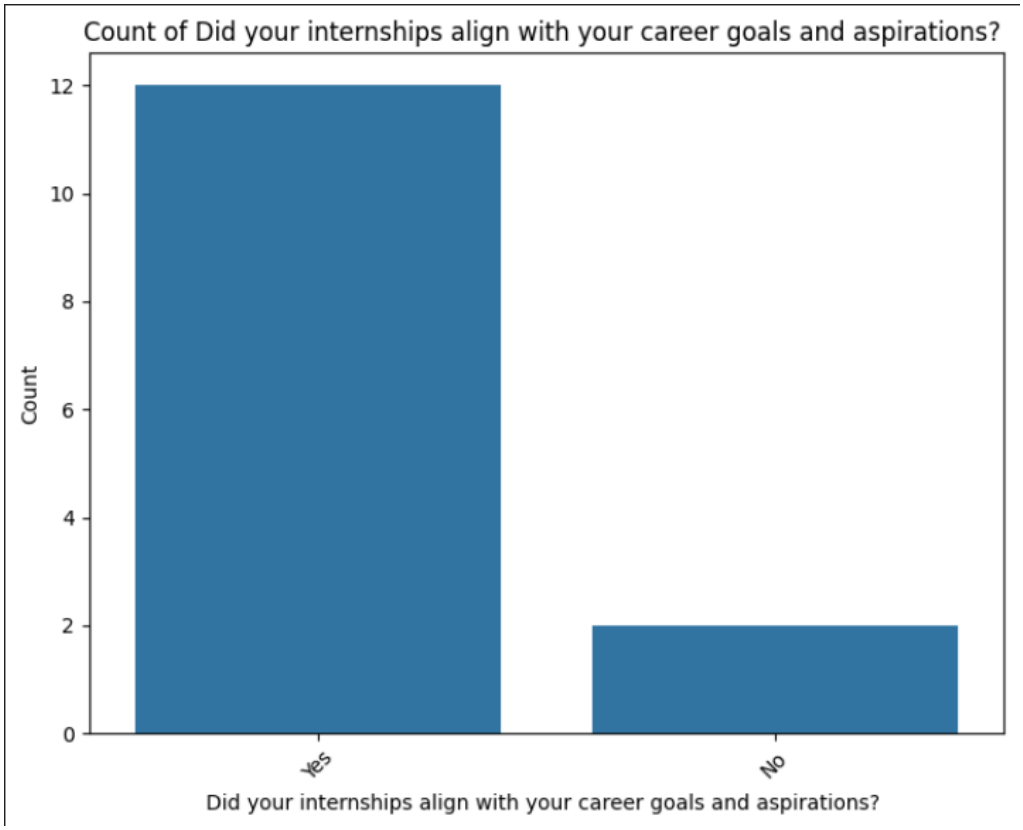
Overall, the graph suggests that internships are a popular choice among the students who responded to this survey. However, due to the limitations mentioned above, it is difficult to draw any definitive conclusions from this data.



From the graph, it appears that gaining practical work experience was the most popular objective, followed by developing problem-solving abilities and gaining industry insights. Here's a more detailed breakdown of the data:

- **Gain practical work experience:** This was the most selected objective, with 10 interns selecting it.
- **Develop problem-solving abilities:** 9 interns selected this objective.
- **Gain industry insights:** 8 interns selected this objective.
- **Improve communication skills:** 6 interns selected this objective.
- **Other (please specify):** Only 2 interns selected this option, and the graph doesn't show what they specified.

It's important to note that interns could select multiple options, so the total number of responses (35) is greater than the number of interns who responded to the survey



Overall, the graph suggests that internships are a positive experience for many interns, as they align with their career goals. However, due to the limitations mentioned above, it is difficult to draw any definitive conclusions from this data.

Conclusion

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There is no statistically significant association between internship participation and academic year (p-value: 0.18637397603940997 ).
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The output tells that based on the survey data, there's no strong evidence to suggest that students' internship participation habits differ across academic years. Here's a breakdown:

No statistically significant association: This means that observing a student participate in an internship (or not) isn't necessarily related to their academic year. In other words, students in all academic years seem to be equally likely (or unlikely) to have participated in internships based on this analysis.

In this case, the p-value (0.1863...) is greater than 0.05. This means it's more likely than 18.63% that the observed distribution of internship participation across academic years could have happened by chance, even if there's no real relationship. Therefore, we don't have enough evidence to reject the null hypothesis of independence.

Any potential issues

Topic Choice:
While analysing the data, I encountered complications because I chose more categorical variables than quantitative variables. As a result, my analysis was mainly categorical, which limited me in some aspects and made it a little bit harder to analyse.

Sample Size:
The biggest concern across all the graphs is the small sample size.the data cannot be considered statistically significant. It may not represent the larger population of students or interns.