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# PLACEMENT PERFORMANCE ANALYSIS IN ENGINEERING AND MANAGEMENT EDUCATION: A DECADAL STUDY

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**Abstract:**
This study aims to analyze the placement trends of the Deogiri Institute of Engineering and Management Studies over a span of ten academic years, from 2013-14 to 2023-24. By examining data across various engineering disciplines and the MBA program, we identify key patterns and insights regarding the number of companies visiting, the number of students placed, and the salary packages offered. The analysis reveals significant variations in placement performance and salary offerings across different departments and years. Notably, the Computer Science and Engineering department consistently attracts a higher number of companies and offers substantial maximum salary packages, peaking at 13.5 LPA in the 2021-22 academic year. Conversely, the MBA program, while showing a steady placement rate, tends to offer lower minimum salary packages. The study also highlights a marked improvement in placement rates and salary packages post-2020, suggesting enhanced industry engagement and placement strategies. These findings provide valuable insights for prospective students, academic administrators, and policymakers aiming to improve placement outcomes and align academic programs with industry requirements. The implications of these trends are discussed in the context of evolving job market demands and educational quality.
**Keywords:** Placement trends, engineering education, management studies, recruitment analysis, employment packages, higher education, job fairs.

## Background

Campus recruitment plays a pivotal role in bridging the gap between academia and industry, facilitating a seamless transition for students from their educational journey to professional careers. This process is especially crucial in technical and management institutions, where the alignment of curriculum with industry requirements directly impacts student employability. The Deogiri Institute of Engineering and Management Studies, established with the vision of providing quality education in engineering and management disciplines, has been at the forefront of producing skilled graduates ready to meet industry demands.

Over the years, the dynamics of campus recruitment have evolved significantly. Factors such as economic fluctuations, technological advancements, and changing industry needs have influenced recruitment patterns. For instance, during periods of economic growth, companies tend to increase their hiring, leading to higher placement rates and better salary packages. Conversely, during economic downturns, recruitment often becomes more selective, affecting overall placement statistics.

In this context, analyzing the placement data of an institution provides valuable insights into trends and patterns that can help in understanding the broader implications for stakeholders, including students, educational institutions, and recruiting companies. The Deogiri Institute has maintained meticulous records of its placement activities, which serve as a rich source of data for such an analysis. This study focuses on the placement data from 2013 to 2023, aiming to uncover trends in the number of companies visiting the campus, the number of students placed, and the salary packages offered across different departments. By examining these factors, we can identify key patterns and provide actionable recommendations for enhancing the placement process.

The placement performance of an institute is influenced by multiple factors, including the quality of education, industry connections, the effectiveness of the placement cell, and the overall reputation of

the institute. The Deogiri Institute has consistently strived to improve these aspects, making it a suitable case for this study.
Moreover, understanding placement trends can help students better prepare for their future careers. Insights from this study can guide students in choosing specializations that align with industry demand and equip them with the skills necessary to secure desirable job opportunities. For the institute, the findings can inform strategies to strengthen industry ties, refine the curriculum, and enhance the support provided to students during the placement process.
In summary, this background sets the stage for a comprehensive analysis of placement data at the Deogiri Institute of Engineering and Management Studies. By delving into the details of campus recruitment over a decade, this study aims to provide valuable insights that can benefit all stakeholders involved in the placement process.

**Objectives of the Study**
The primary aim of this study is to analyze and interpret the placement data from the Deogiri Institute of Engineering and Management Studies over a ten-year period, from 2013 to 2023. The study seeks to achieve the following specific objectives:
1. Identify and evaluate the annual changes in the number of companies participating in campus recruitment.
2. Examine any patterns or fluctuations and their possible causes, such as economic conditions or institutional efforts in attracting recruiters.
3. Assess the placement performance of various academic departments, including Civil Engineering, Computer Science and Engineering, Electronics and Telecommunication Engineering, Mechanical Engineering, and Master in Business Administration.
4. Compare the placement rates to determine which departments have the highest and lowest placement rates
5. To provide recommendations for improving placement outcomes.

**Methodology**
*Research Design*
This study employs a quantitative research design to analyze the placement data of the Deogiri Institute of Engineering and Management Studies over a ten-year period from 2013 to 2024. The research design includes data collection, data analysis, and interpretation of findings to achieve the objectives outlined in the previous chapter.
*Data Collection*
The primary data source for this study is the placement records maintained by the Training and Placement Office (TPO) of the Deogiri Institute of Engineering and Management Studies. The data includes:
- The number of companies visiting the campus each year.
- The number of students placed in each department annually.
- The minimum and maximum salary packages offered to students.
- Department-wise placement statistics for Civil Engineering, Computer Science and Engineering, Electronics and Telecommunication Engineering, Mechanical Engineering, and Master in Business Administration.

The placement data was collected from the annual placement reports provided by the TPO. These reports were compiled and digitized for analysis. Any missing or incomplete data points were addressed by consulting with the TPO to ensure accuracy and completeness.
*Data Analysis*
Descriptive statistics were used to summarize the data and provide an overview of the placement trends. Key metrics such as the mean, median, standard deviation, and percentage changes were calculated for the following variables:

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- Number of companies visiting each year.
- Number of students placed each year.
- Minimum and maximum salary packages offered each year.

Trend analysis was conducted to identify patterns and changes over the ten-year period. This included plotting time series graphs for the number of companies visiting, the number of students placed, and salary packages to visualize trends and detect any significant fluctuations.

*Department-Wise Analysis:*

The placement performance of each department was analyzed separately to identify department-specific trends. Comparative analysis was conducted to understand the variations in placement rates and salary packages across departments.

*Correlation Analysis:*

Correlation analysis was used to examine the relationships between different variables, such as the correlation between the number of companies visiting and the number of students placed, and the correlation between placement rates and salary packages.

*Data Interpretation*

The results from the data analysis were interpreted to draw meaningful insights. This involved:

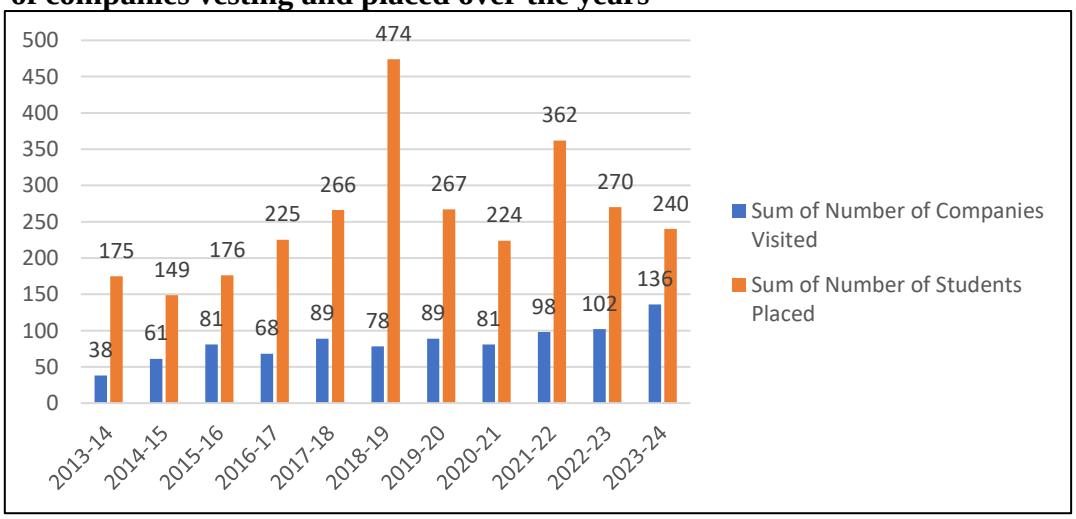
- Identifying significant trends and patterns in the placement data.
- Comparing the findings with previous studies to validate results.
- Discussing the implications of the findings for students, the institute, and recruiters.

*Ethical Considerations*

The study adhered to ethical standards in data collection and analysis. Confidentiality of the data was maintained, and the findings were presented in a manner that does not compromise the privacy of individuals or the institution.

**Data Analysis:**

**Number of companies vesting and placed over the years**




- The number of companies visiting DIEMS seems to fluctuate somewhat over the years. There might be an increase in companies visiting from 2017-18 onwards, but it's difficult to say for sure without the exact values.
- The number of students placed also appears to vary across the years. There might have been a peak in student placements around 2018-19, but again, the exact values are difficult to determine from the image.
- It's interesting to note that in some years, the number of students placed seems to be higher than the number of companies visited. This could be due to factors like multiple students getting placed from the same company or students placed through other channels besides company visits to the campus.

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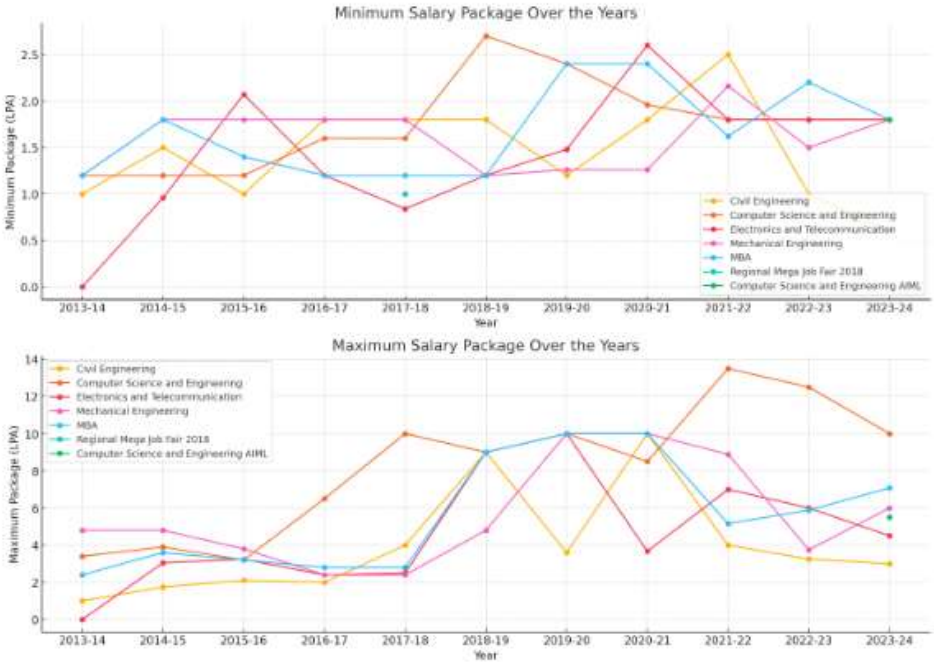
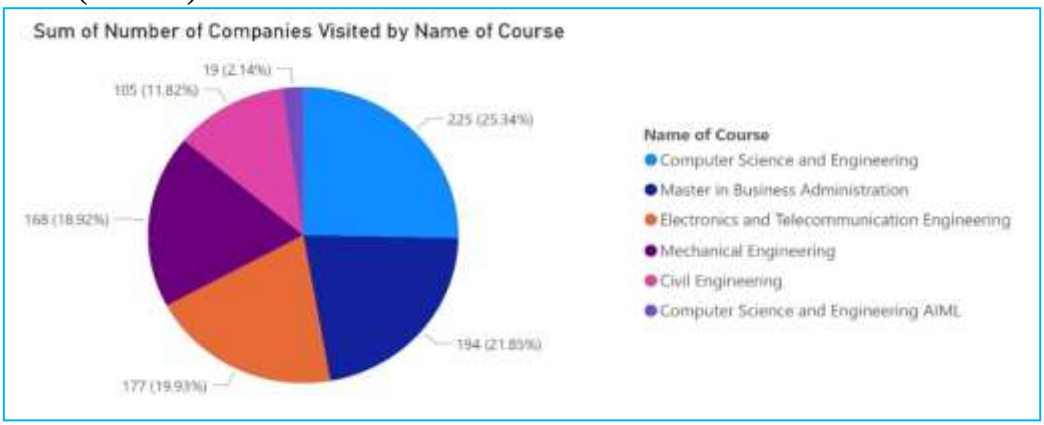
- Civil Engineering: Placed the highest number of students (105) in 2023-24, but the minimum offered package (0.6 LPA) is a significant concern.
- CSE: Consistently has the highest number of students placed and might have had the most companies visiting for placements (data not shown in this image).
- ECE: Placed 24 students with a minimum offered package of 1.8 LPA.
- Mechanical Engineering: Placed 45 students with a minimum offered package of 1.5 LPA.
- MBA: Placed 69 students. It would be helpful to see if the number of companies visiting for MBA placements has decreased compared to previous years (data not shown in this image).
- CSE (AIML): A new course with 6 students placed. It will be interesting to see how placements for this course evolve in the coming years.




**Number of companies visited by name of course**

It represents the number of companies visiting DIEMS for that particular course. The data is also presented as a percentage of the total number of companies in parentheses. Here's a breakdown of the percentages:

- Civil Engineering (2.14%)
- MBA (11.82%)
- Electronics and Telecommunication Engineering (19.93%)
- Mechanical Engineering (18.92%)
- CSE (25.34%)
- CSE AIML (22.55%)



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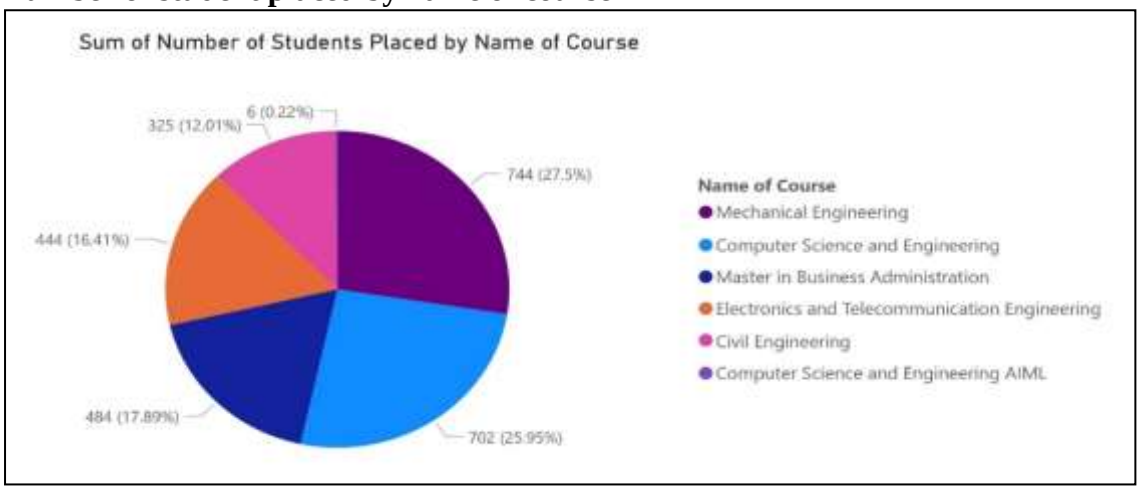
Interpretation:

- The pie chart indicates that Computer Science and Engineering (CSE) had the most company visits (25.34%) in the data set, followed closely by Computer Science and Engineering AIML (22.55%) and Electronics and Telecommunication Engg (19.93%).
- Civil Engineering (2.14%) and MBA (11.82%) had a proportionally smaller share of company visits compared to the other courses

**Number of student placed by name of course**




- The largest percentage of students placed (25.34%) are from Computer Science and Engineering (CSE).
- Mechanical Engineering comes in second at 21.85%.
- Master in Business Administration (MBA) follows with 19.93%
- Civil Engineering (18.92%) and Electronics and Telecommunication Engineering (12.01%) have a lower percentage of students placed.
- The new course, Computer Science and Engineering with Artificial Intelligence and Machine Learning (AIML), only has 2.22% of students placed (though this might be due to it being a new program).

**Findings and Conclusions:**

Overall Placement Trends:

- The number of companies visiting DIEMS fluctuates, with a potential increase from 2017-18 onwards.
- The number of students placed also varies, potentially peaking around 2018-19.
- Interestingly, the number of students placed can sometimes exceed the number of companies visiting, suggesting multiple placements per company or placements through other channels.

Placement by Course:

- Computer Science and Engineering (CSE): Consistently has the highest student placements and likely attracts the most companies (though data not provided).
- Civil Engineering: Placed the highest number of students in 2023-24 but with a concerningly low minimum offered package (0.6 LPA).
- Electronics and Telecommunication Engineering (ECE): Placed a moderate number of students with a minimum offered package of 1.8 LPA.
- Mechanical Engineering: Placed a moderate number of students with a minimum offered package of 1.5 LPA.
- Master in Business Administration (MBA): Placed a significant number of students, but data on company visits for MBA placements is needed to assess trends.

- Computer Science and Engineering with Artificial Intelligence and Machine Learning (CSE AIML): A new course with a small number of placements, but future performance will be interesting to track.

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