

# UNSTRUCTURED DATA ANALYSIS

## SENTIMENT ANALYSIS OF TOP MBA COLLEGES IN BANAGALORE

### **MEMBERS:**

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SWEETY SINGH -

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# INTRODUCTION

In the highly competitive MBA/PGDM education sector in Bangalore, it is essential for both prospective students and institutions to understand real-world perceptions and experiences. While standardized rankings like the National Institutional Ranking Framework (NIRF) provide a measure of institutional quality, they may not fully capture the detailed experiences and sentiments of students.

This project seeks to bridge this gap by performing a sentiment analysis on student reviews of top MBA/PGDM colleges in Bangalore, sourced from Shiksha.com. The goal is to uncover insights into the specific factors contributing to the perceived superiority of certain colleges and identify areas where others may need improvement. By comparing these sentiment insights with NIRF rankings, the project aims to determine the alignment between institutional reputations and actual student experiences, providing a more nuanced understanding of the competitive landscape in MBA/PGDM education in Bangalore.

# APPROACH

## 1. Source: Reviews from Shiksha.com

**Credibility and Volume:** Provides a large, credible dataset widely used by students for sharing educational experiences.

**Relevance:** Focused on educational institutions, ideal for gathering relevant reviews on MBA/PGDM programs in Bangalore.

**User-Generated Content:** Genuine insights from actual students, crucial for realistic sentiment analysis.

## 2. Target Colleges: Top MBA/PGDM Colleges in Bangalore

**Focused Analysis:** Relevant to high-performing institutions under scrutiny by students and stakeholders.

**Benchmarking:** Establishes benchmarks for leading educational experiences, aiding comparative analysis.

**Popularity:** Reflects institutions actively considered and discussed by students on Shiksha.com.

## 3. Data Points: Reviews Including Textual Feedback, Ratings, and Specific Mentions

**Comprehensive Feedback:** Captures detailed student experiences beyond what ratings alone can provide.

**Quantitative and Qualitative Data:** Integrates objective scores with subjective experiences for robust analysis.

**Aspect-Specific Sentiments:** Identifies strengths and weaknesses in specific areas like facilities and faculty.

**Holistic View:** Offers a comprehensive view of institutions, essential for thorough evaluation and comparison with NIRF rankings.

# EXTRACTION PROCESS

shiksha.com/university/jain-deemed-to-be-university-bangalore-424/reviews-37bcw101

VIEW RESULTS

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5 Anonymous | MBA in Aviation and Aerospace Management - Batch of 2020  
Reviewed on 5 May 2024

4.4 ★★★★★ Placements 4 Infrastructure 5 Faculty & Course Curriculum 4 Crowd & Campus Life 5 Value for Money 4

I am absolutely satisfied with college.

Placements: Placement was amazing. As you can see, our college is a Tier 2 college and is still improving. The highest package the student secures is 30 LPA, while the average is 12 LPA. Aron Aviation, the airport authority of India, is hiring students. The internship companies that come to college are not that great, they just need an employee with a degree and a low salary.

Infrastructure: College life is really fun. There are a lot of facilities provided by the college; they provide Wi-Fi with high-speed internet. I mostly like labs that have aviation engines, parts, and bodies; they are useful for studying. No, not have college hostel and canteen, but many PGs are available within walking distance of college. We have indoor and outdoor sports courts, and most students love to play indoor sports.

Faculty: Teachers and course both are practical-oriented; mostly, weightage is given to practical. Teachers use labs, the aviation model, and theoretical lectures in their teaching. MBA Aviation is a rare course; it is not offered by many companies, but our college has a good course structure; it is affiliated with Jain University, which is deemed industry-oriented. Semester exams are practical, and theoretical passing needs at least 40%.

Was this review helpful? Yes | No

Share

Anonymous | 1st Leadership - Batch of 2021  
Reviewed on 20 Apr 2024

3.2 ★★★★★ Placements 3 Infrastructure 3 Faculty & Course Curriculum 3 Crowd & Campus Life 3 Value for Money 4

simplescraper.io/dashboard/results-1

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Manage recipes  
Recipe store  
Guide

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Table preview JSON preview

AUTHOR_NAME	BATCH_NAME	REVIEW_DATE
Anonymous	Anonymous   MBA in Finance - Batch of 2019	Reviewed on 12 Jun 2
Suraj poudar	Suraj poudar   MBA in Aviation and Aerospace Management - Batch ...	Reviewed on 5 May 21
Anonymous	Anonymous   MBA in Public Policy and Leadership - Batch of 2021	Reviewed on 20 Apr 2
Anonymous	Anonymous   MBA in Finance - Batch of 2024	Reviewed on 29 Feb 2
Anonymous	Anonymous   MBA in Marketing - Batch of 2021	Reviewed on 2 Dec 25
Rabia khaiser	Rabia khaiser   Online MBA in International Finance - Batch of 2025	Reviewed on 16 Mar 2
Alyssa Selena mer ...	Alyssa Selena mer ...   MBA in Business Analytics - Batch of 2021	Reviewed on 19 Jan 2
Harni Rajan	Harni Rajan   MBA in Aviation and Aerospace Management - Batch o...	Reviewed on 29 Dec 2
JEEVANANTHAM	JEEVANANTHAM   Online MBA in Banking and Finance - Batch of 20...	Reviewed on 10 Dec 2
Bachu Suresh Kumar	Bachu Suresh Kumar   MBA in Aviation and Aerospace Management...	Reviewed on 24 Sep 2

< 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 >

Title_comment																				
	A	B	C	D	E	F	G	H	I	J	K	L	M							
	Author_name	Batch_name	Review_date	total_star	all_stars	Title_comment														
1	Anonymous	Anonymous   MBA	Reviewed on 9 Jun	4.4	4.4 \nPlac	Good facilities, placements	Placements: Despite Infrastructure:	I chose an MBA to	Other: Christ bgr has	conducts one of the best	fests and even									
2	Anonymous	Anonymous   MBA	Reviewed on 14 Feb	5	5.0 \nPlac	Best University for MBA-	Placements: About Infrastructure:	Not all faculty me	Other: I opted for this	course, because of my	interest in financ									
3	Anonymous	Anonymous   BBA i	Reviewed on 1 Feb	2.6	2.6 \nPlac	Christ is not what I had e	Placements: Very f Infrastructure:	The teachers are	Other: The university	has a lot of clubs where	we engage our									
4	Anonymous	Anonymous   MBA	Reviewed on 14 Feb	4.2	4.2 \nPlac	Masters in business admi	Placements: Our c Infrastructure:	Our teachers are	Other: It has a diverse	crowd. Certain competitions	and event									
5	Anonymous	Anonymous   MBA	Reviewed on 13 Feb	5	5.0 \nPlac	The college is really good	Placements: Approx Infrastructure:	The faculty compo	Other: Currently, I'm	pursuing my MBA from	Christ University'									
6	Tejaswini Shiv	Tejaswini Shivapr ...	Reviewed on 5 Sep	4.8	4.8 \nPlac	I am satisfied with the fe	Placements: Aroun Infrastructure:	All the teachers h	Other: There are several	events conducted in this	college that									
7	Vishaka Kama	Vishaka Kamath   I	Reviewed on 13 Jun	4.8	4.8 \nPlac	I am satisfied with this co	Placements: Aroun Infrastructure:	Teachers are help	Other: Events, fest, campus	crowd and extracurricular	activit									
8	Diya Jain	Diya Jain   MBA (Bu	Reviewed on 1 Jun	4.6	4.6 \nPlac	It is one of the top univer	Placements: The hi Infrastructure:	The teachers in oi	Other: The campus is	superb in promoting	sports, art and cult									
9	Piyush girdhar	Piyush girdhar   ME	Reviewed on 14 Jun	5	5.0 \nPlac	Christ University is a go	Placements: Place Infrastructure:	There are tri-sem	Other: Fests are	interesting and can	gain good experience	and								
10	Sarth Sharma	Sarth Sharma   MB	Reviewed on 6 Jun	4.4	4.4 \nPlac	It is a good option in a go	Placements: I rate Infrastructure:	Not all faculty me	Other: This is one of the	best course that is	available in the m									
11	Preya Shah	Preya Shah   Disco	Reviewed on 6 Aug	4	4.0 \nPlac	Satisfied with the faculty	Placements: Christ Infrastructure:	The majority of te	Other: While most	colleges offer PGDM,	Christ gives an	MBA c								
12	Jeffy Mathew	Jeffy Mathew   MBA	Reviewed on 26 Jun	5	5.0 \nPlac	Our college has value for	Placements: About Infrastructure:	Faculty members	Other: I have	chosen this course	for better career	opportunit								
13	Urvi Mishra	Urvi Mishra   Disco	Reviewed on 21 Jun	4.2	4.2 \nPlac	Overall, it is a good colle	Placements: Our c Infrastructure:	Staff and the facu	Other: We are	experiencing events	even in virtual	mode, so we								
14	Anonymous	Anonymous   MBA	Reviewed on 20 Jun	5	5.0 \nPlac	It is an amazing place an	Placements: Our c Infrastructure:	Faculty members	Other: Value	for money. The	course fee is	less than the	other I							
15	Revathi Nair	Revathi Nair   MBA	Reviewed on 17 Feb	4.8	4.8 \nPlac	Review of Christ Univers	Placements: Over Infrastructure:	Faculty members	Other: I am	in the 2019-2021	batch. I have	chosen this	course							
16	Anin Fletcher	Anin Fletcher J   Mf	Reviewed on 27 Feb	4.4	4.4 \nPlac	Teachers and our campu	Placements: Many Infrastructure:	Various courses c	Other: Everything	is good about the	college. The	only thing is	t							
17	Ankit Prasoon	Ankit Prasoon   MB	Reviewed on 5 Jan	5	5.0 \nPlac	Best in the class institut	Placements: The pl Infrastructure:	The curriculum is	Other: The	best thing in	Christ University	is the	student	divers						
18	Anonymous	Anonymous   MBA	Reviewed on 16 Feb	4.8	4.8 \nPlac	Really the best infrastruc	Placements: Almo Infrastructure:	The teachers are	Other: I	chose this	course	such	that	it	would	enable	me	to	clir	
19	Ajaykrishna ja	Ajaykrishna jaiku ...	Reviewed on 16 Feb	3.2	3.2 \nPlac	Talking about the overall	Placements: Our c Infrastructure:	The professors	of	Other: I	would	say	overall	this	college	is	the	best	for	studying,
20	Siddharth Dut	Siddharth Dutta   I	Reviewed on 30 Feb	4	4.0 \nPlac	Teaching quality is decer	Placements: In a yk Infrastructure:	Teachers are usu	Other: I	have	chosen	an	MBA,	and	this	course	always	gets	rev	
21	Aravind M	Aravind M   MBA (B	Reviewed on 17 Feb	4	4.0 \nPlac	It is one of the best unive	Placements: About Infrastructure:	There are well qu	Other: Fests	are	organised	here,	and	we	get	a	lot	of	exposure.	

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raw\_data\_christ\_univ

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The extracted data underwent a quick cleaning process in Excel to address issues such as data spills and duplication. The date column was converted to date format, and star rating columns were formatted as numbers. The combined Name and Batch column was separated using the "|" delimiter. The All-stars column, which contained star ratings for various categories, was split using column separators and the "\" delimiter, and the textafter function was used to distribute the star counts into separate columns like Placement\_Star and Faculty\_Star. Additionally, batch names including PhD, B. Com, and Certificate courses were included alongside MBA and PGDM, aligning with NIRF's consideration of total student strength, including doctoral students, for ranking purposes.

Below are the variables in the data after completing the Data Cleaning process:

Variable Name	Meaning	Source
<b>Author name</b>	The name of the person who wrote the review.	Shiksha.com
<b>Batch name</b>	The graduation batch year of the reviewer.	Shiksha.com
<b>Review date</b>	The date when the review was posted.	Shiksha.com
<b>Total star comment</b>	The overall star rating given by the reviewer.	Shiksha.com
<b>All stars</b>	Detailed star ratings across various parameters (placement, infrastructure, etc.).	Shiksha.com
<b>Title comment</b>	The title or summary of the review provided by the reviewer.	Shiksha.com
<b>Placements Star</b>	Star rating given specifically for placements.	Shiksha.com
<b>Placements</b>	Detailed comments and opinions regarding the placements provided by the institution.	Shiksha.com
<b>Infrastructure Star</b>	Star rating given specifically for infrastructure.	Shiksha.com
<b>Infrastructure</b>	Detailed comments and opinions regarding the infrastructure of the institution.	Shiksha.com
<b>Faculty_Star</b>	Star rating given specifically for the faculty.	Shiksha.com
<b>Faculty</b>	Detailed comments and opinions regarding the faculty of the institution.	Shiksha.com
<b>CampusLife Star</b>	Star rating given specifically for campus life.	Shiksha.com
<b>VFM Star</b>	Star rating given for value for money.	Shiksha.com

# ANALYSIS



We analyzed reviews of top MBA/PGDM colleges in Bangalore using Python with the following steps:

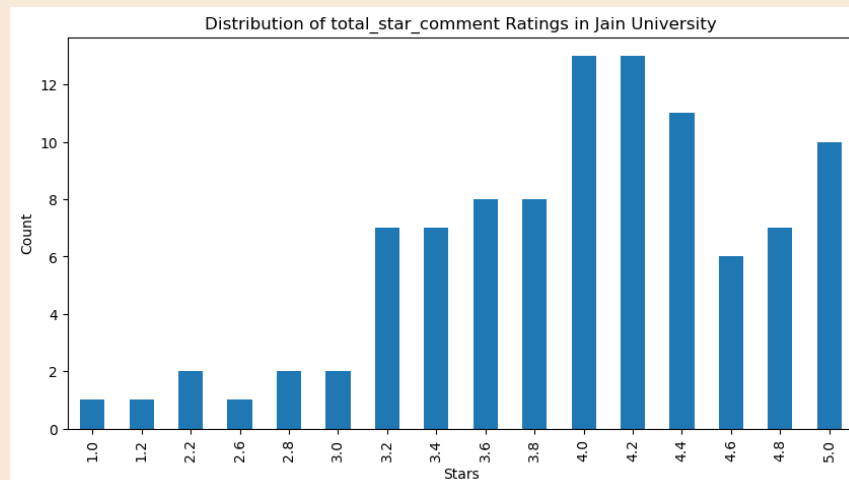
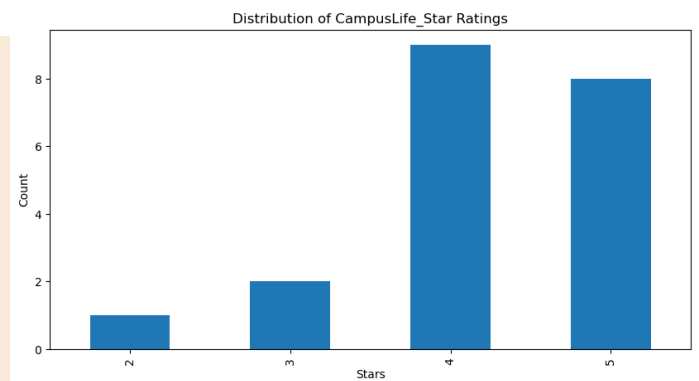
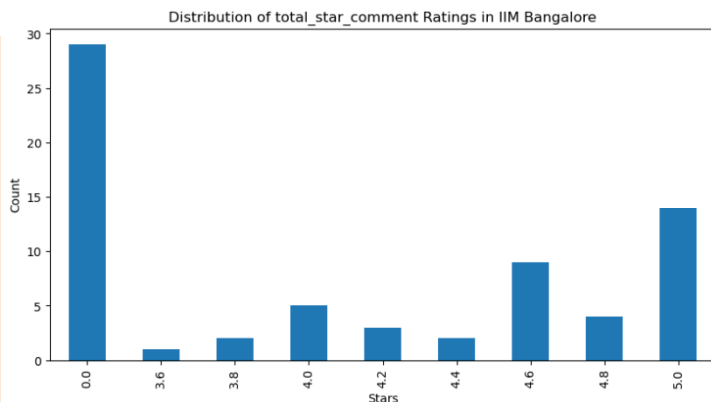
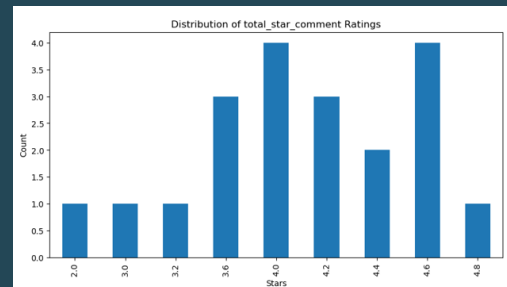
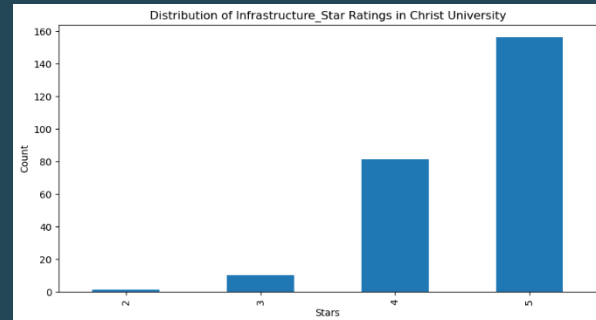
- 1. Data Loading:** Imported and prepared the dataset from Shiksha.com.
- 2. Exploratory Data Analysis:** Utilized ``dataset.info`` to understand the dataset structure and conducted visualizations to explore star ratings distribution.
- 3. Text Preprocessing:** Cleaned text data by removing stop words, punctuations, and non-alphabetic characters, and standardized text formatting.
- 4. Sentiment Analysis:** Applied the VADER model to determine sentiment (positive, negative, neutral) from reviews.
- 5. Visualization:** Created Word Clouds for "Title\_Comment", Placements, Infrastructure, and Faculty to visualize frequent terms.
- 6. Feature Extraction:** Used TF-IDF Vectorizer to convert text data into numerical features.
- 7. Clustering:** Employed K-Means clustering to group similar reviews and identify common themes and sentiments.

This analysis provided insights into student perceptions of colleges, aiding informed decision-making and strategic improvements for educational institutions in Bangalore.

# OUTPUT

```
data_alliance_univ.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 20 entries, 0 to 19
Data columns (total 21 columns):
 #   Column                      Non-Null Count  Dtype  
---  -
 0   Author_name                 20 non-null    object 
 1   Batch_name                  20 non-null    object 
 2   Review_date                 20 non-null    object 
 3   total_star_comment          20 non-null    float64
 4   Title_comment               20 non-null    object 
 5   Placements_Star             20 non-null    int64  
 6   Placements                  20 non-null    object 
 7   Infrastructure_Star         20 non-null    int64  
 8   Infrastructure               20 non-null    object 
 9   Faculty_Star               20 non-null    int64  
10   Faculty                     20 non-null    object 
11   CampusLife_Star            20 non-null    int64  
12   VFM_Star                   20 non-null    int64  
13   other                      20 non-null    object 
14   Title_comment_sentiment     20 non-null    object 
15   Placements_sentiment        20 non-null    object 
16   Infrastructure_sentiment     20 non-null    object 
17   Faculty_sentiment           20 non-null    object 
18   other_sentiment             20 non-null    object 
19   cluster                    20 non-null    int32  
20   average_sentiment           20 non-null    float64
dtypes: float64(2), int32(1), int64(5), object(13)
memory usage: 3.3+ KB
```







# MANAGERIAL IMPLICATIONS & RECOMMENDATIONS

## Managerial Implications

- Students express concerns regarding placements which is lower in Christ University, and Alliance university where placements range from 2 lac to 7 lac.
- Dissatisfaction with Campus facilities, Wi-Fi and canteen in Alliance University. Jain University has all required infrastructure facilities.
- Faculty are applauded in IIM Bengaluru with all necessary infrastructure for research and has PhD students.
- IIM B gives MBA whereas other universities taken into consideration give PGDM degrees.
- Students appreciate the support for entrepreneurship and the variety of events, fests, inter-college competitions, and sports activities in all colleges.

## Recommendations:

### Placements

1. **Strengthen Industry Connections:** Continue building relationships with top-tier companies and expand the network.
2. **Improve Communication:** Provide regular and transparent updates about placement activities and company participation.

### Infrastructure

1. **Maintain and Upgrade Facilities:** Ensure Wi-Fi, computer labs, libraries, gyms, and classrooms meet student expectations.
2. **Develop Campus and Canteen:** Invest in creating a dedicated campus area and improving canteen facilities.

### Faculty

1. **Support Faculty Development:** Invest in professional development programs to enhance teaching quality.
2. **Hire Qualified Faculty:** Ensure faculty members are adequately qualified and continuously trained.

### Other Aspects

1. **Enhance Entrepreneurial Support:** Strengthen support for entrepreneurial initiatives and practical learning opportunities.
2. **Improve Event Organization:** Provide more support and resources for student-led events to ensure they are well-organized and meet student expectations.

# CONCLUSIONS

The sentiment analysis of top MBA/PGDM colleges in Bangalore offers valuable insights into student perceptions and experiences, complementing traditional ranking systems like the NIRF. Our analysis revealed key strengths and areas for improvement across various colleges, focusing on specific parameters such as placements, infrastructure, and faculty. The application of advanced techniques like the VADER model for sentiment analysis, TF-IDF Vectorizer for feature extraction, and K-Means clustering for grouping reviews has provided a comprehensive understanding of student sentiments.

The implications for college management are significant. Institutions can now make data-driven decisions to enhance their offerings, address student concerns proactively, and improve overall student satisfaction. The regular monitoring of sentiments and the strategic application of these insights can lead to sustained improvements and a stronger reputation.

In summary, this project underscores the importance of integrating sentiment analysis into the continuous improvement processes of educational institutions. By aligning student feedback with institutional strategies, colleges can ensure they meet the evolving needs of their students, ultimately fostering a more positive educational environment and achieving higher levels of excellence.