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Analysis of Belonging and Retention: Fall 2017 NEF

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Analysis of Belonging and Retention

Fall 2017 NEF

St Cloud State University



Karteek Reddy Tummala

STAT 660

Need for Enrollment Analysis

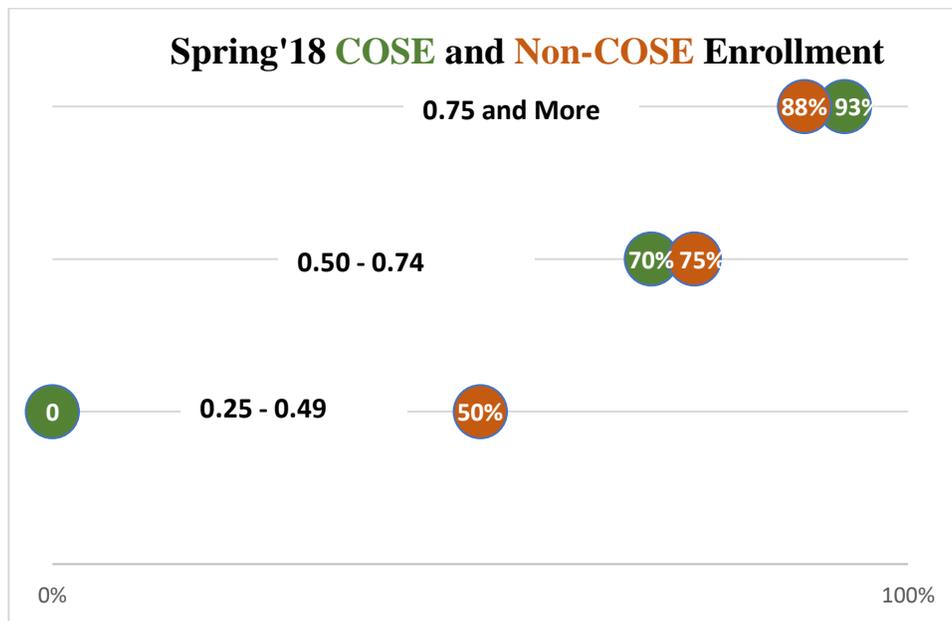
The Analysis on Enrollment of students is important to any university in planning the academics, course curriculum and many other things to ensure the students get best campus experience. The main goal of this analysis is to determine the reason for Low retention rate based on the Social Belonging Index(SBI) and Academic Belonging Index(ABI) and demonstrate the accuracy of analysis on previous retention results to further strengthen the analysis.

What is SBI and ABI

Social Belonging Index is a survey result to know how connected a student felt to SCSU and to other students. It is on a scale from 1 to 5. Academic Belonging Index is whether the students felt comfortable in their classes and whether they felt they belonged in the types of classes in their major. The results are categorized into three ranges, High is 4.5 and above, Medium is 3.5 to 4.49, and Low is below 3.5. No Survey means the Students who did not participate in the survey and for this analysis, the data related to No Survey was eliminated. For Enrollment analysis using SBI/ABI, I have grouped the data from both the categories by giving higher priority to SBI ($2 * SBI + ABI$), because SBI is more important than ABI, at least in the first year, because many students don't take many major classes in their first year.

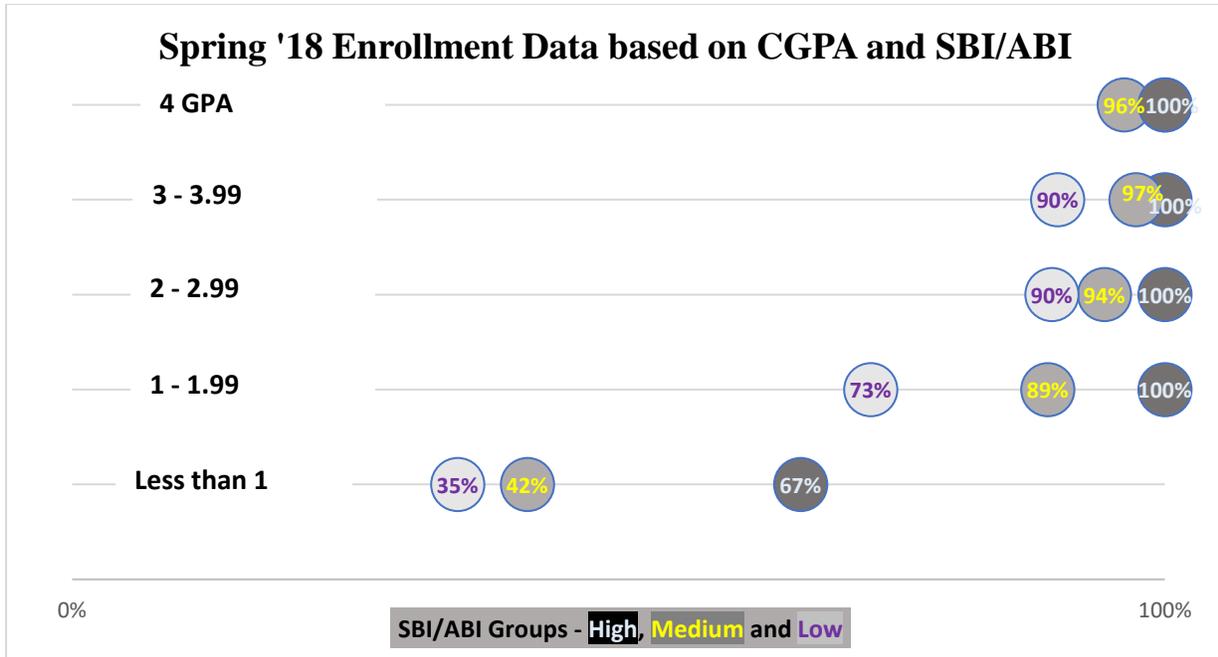
Results

The following Dot Plot demonstrates the Actual Enrollment vs Enrollment Probability for Spring '18. The results of the model used for analysis and prediction, closely match with the actual enrollment results and this model should be main factor in future analysis for Enrollment Probability.



Enrollment Probability	Enrolled
0.75 and more – COSE	309
0.50 - 0.74 - COSE	7
0.25 - 0.49 - COSE	0
0.75 and more - Non- COSE	887
0.50 - 0.74 - Non- COSE	17
0.25 - 0.49 - Non- COSE	1

Problem 1: Cumulative GPA and Fall'17 SBI/ABI Survey response Groups.



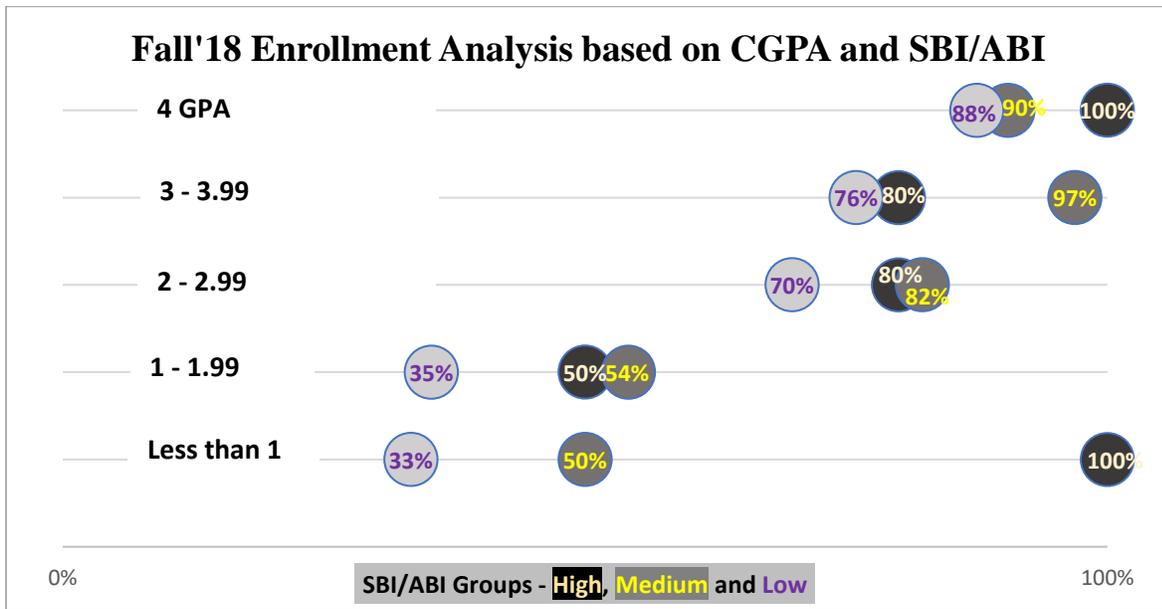
The above Dot Plot demonstrates the Enrollment rate of students for Spring'18 based on their cumulative GPA and their ABI/SBI Survey response for Fall'17.

Students retention rate is least, nearly 35%, when their CGPA is less than 1 and their combined SBI/ABI Survey Group is Low, which is less than 3.5 on a scale of 5. Even, for students whose SBI/ABI survey Group is marked as Medium and with CGPA less than 1 have an overall of 42% retention rate which is low as well.

Though, the retention rate of students with CGPA less than 1 and who gave SBI/ABI Survey as High have 67% retention rate, and students with CGPA between 1 and 2 and SBI/ABI Survey Group as Medium have 73% retention rate, but these results are comparatively better much than other two. If University can focus more on these two categories by suggesting them to consult Advising center or their advisor on regular basis, to determine the courses and number of credits they can take to improve their performance, then probably we can see a higher retention rates for these categories as well.

All other categories have similar higher retention rates, over 90%, which is a positive sign.

Problem 2: Cumulative GPA and Spring'18 SBI/ABI Survey response Groups.



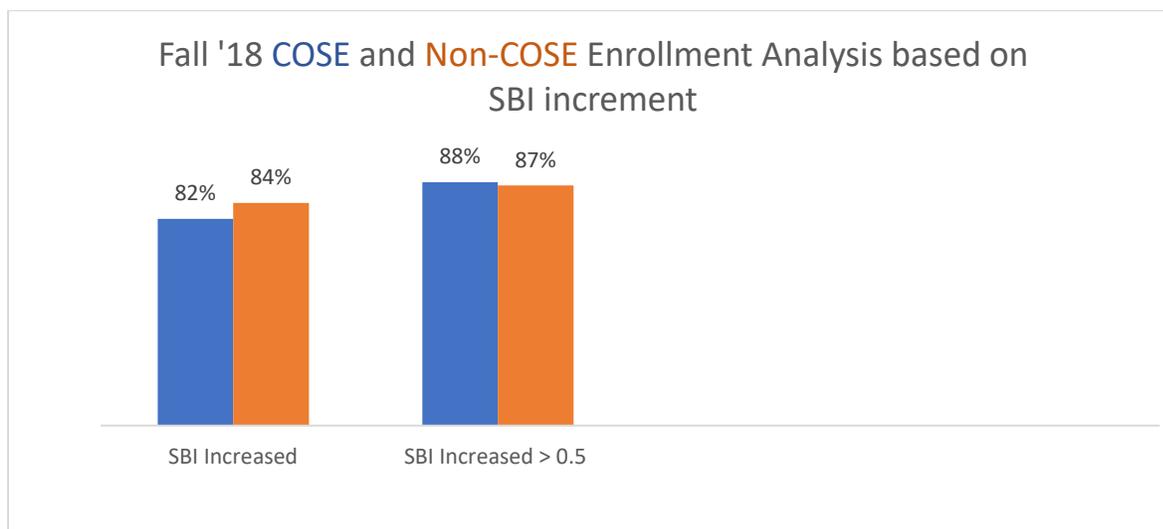
The Enrollment results for Fall'18 based on cumulative GPA and SBI/ABI Survey response groups are similar to Spring'18 for categories that had Lower retention rates. Though there is still time for students to Enroll for courses, a preliminary analysis would help various departments in the university to plan accordingly by analyzing the trends.

The lowest retention was 33% among students who have CGPA below 1 and whose SBI/ABI Survey response Group is Low, followed by students whose SBI/ABI values are same but having a CGPA between 1 and 2 whose retention rate was 35%. Similar to the Spring Analysis, when a student has Low GPA and had given below 3.5 SBI/ABI response, they are most likely going to dropout.

Also, if the students Survey response was in Medium category with CGPA between 1 and 2 or CGPA less than 1, also have a lower retention rate of 54% and 50% respectively. Though from the analysis the 54% is expected to rise, but it should be definitely considered as a risk category and when University plans to take corrective measures to improve student's performance, the trends for that category should be considered as well.

The retention rate for category with CGPA between 1 and 2, and High Survey response is not considered as a risk category because we only had 2 students.

Problem 3: Enrollment Based on SBI Increment



The above Bar chart shows the Fall'18 Retention results for COSE and Non-COSE students who gave SBI survey for both Fall'17 and Spring'18 and if their survey response increased from previous year.

The Analysis results show a high retention rate. If a student's SBI survey response increased from previous year, for all COSE departments the retention rate is 82% and the Non-COSE departments student retention rate is 84%.

When a student has given SBI survey response more than 0.5 from his previous year, it is most likely that he will enroll for next semester as well. The results strengthen this point, for COSE students and Non-COSE students the retention rates were 88% and 87% respectively.

Conclusion:

If a student has Cumulative GPA less than 1 and his Survey response Category is Low or Medium then he is most likely going to drop out.

