

INFO-I 421

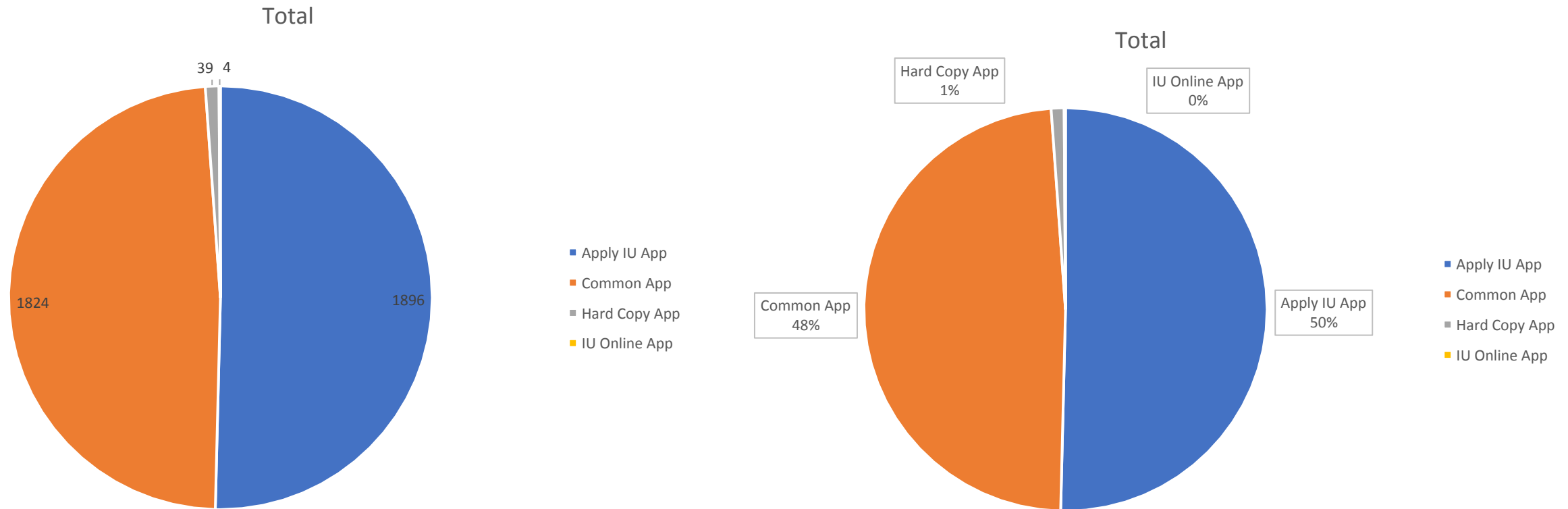
HW 1

Elizabeth Hollis

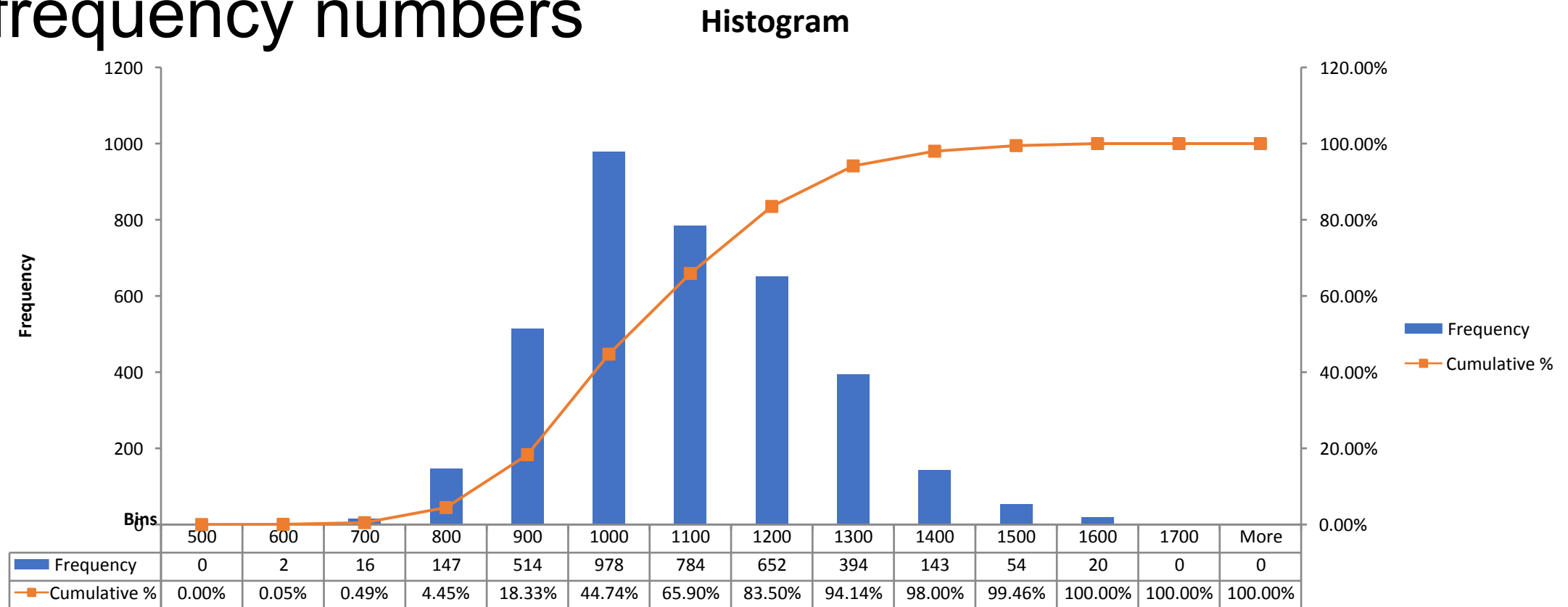
1. Descriptive of the dataset

- Dataset shows data for enrolling students, large dataset 3763 rows of data.
- Has different columns of data such as application method (what students used to apply through), home county (county where student resides), home state (where student is applying), residency status (if they're applying out-of-state or in-state), first generation (yes or no), gender, ethnicity, SAT/ACT score (SAT score but ACT accepted but converted), high school diploma type (Core 40, academic honors, etc.), high school class rank, high school class size, high school class percentile, and high school converted GPA. Many of these categories have different options (more than two).

2. Pie Chart for Application Method Code – Two ways for the data to be visualized (with actual counts and with percentages)



3. Histogram for Derived SAT or Converted ACT –
Tried to put the “bins” tag with the bin numbers
(started at 500 since that is the last number with a
0 before 600 which has a 2). Included SAT
frequency numbers



4. Using Pivot Tables, answer these questions....

- How many (i.e. count/number) students in Indiana are also first generation students? Answer: 1020
- What percentage of African American/Black students are male versus female? Answer: 36% (rounded up) are male versus female.
- What is the average class size among those who have a CORE 40 Technical Diploma? Answer: 465 average

Pivot Tables used for last slide

First generation and live in Indiana:

Count of IR First Generation		
Column Labels		
Row Labels	Yes	Grand Total
Indiana	1020	1020
Grand Total	1020	1020

Percentage of male African American/black students:

Count of IPEDS Derived Race-Ethnicity Description			
Column Labels			
Row Labels	Female	Male	Grand Total
Black/African American	64.01%	35.99%	100.00%
Grand Total	64.01%	35.99%	100.00%

Average class size (part of) in
which they have CORE 40
Technical Diploma:

405	405	405
425	425	425
471	471	471
477	477	477
494	494	494
513	513	513
556	556	556
569	569	569
574	574	574
602	602	602
603	603	603
604	604	604
607	607	607
608	608	608
624	624	624
658	658	658
771	771	771
804	804	804
861	861	861
892	892	892
893	893	893
896	896	896
1039	1039	1039
(blank)		
Grand Total	464.7741935	464.7741935

5. Short presentation highlighting differences between CommonApp and Apply IU App

- There is a difference in geographic in those who apply to IU: For instance according to the pivot table below, you can see that in states outside of Indiana, they mostly use the CommonApp to apply.

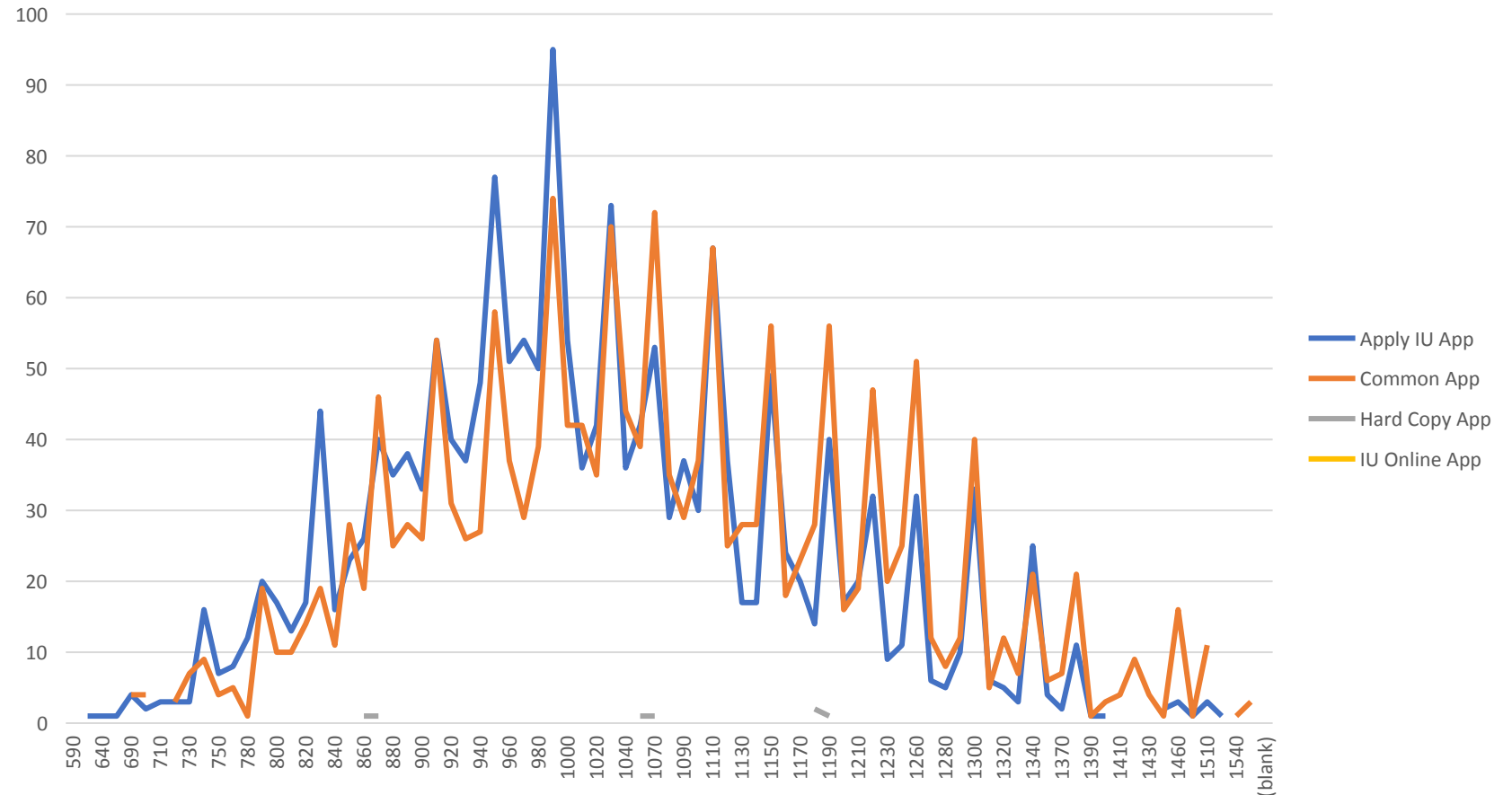
Count of Application Method Code	Column Labels																			
Row Labels		Alabama	Arizona	California	Colorado	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Maryland	Michigan	Minnesota	Mississippi	Missouri	New
Apply IU App	17	1		1					1	30	1814		2	2			3	1	1	5
Common App	23	1	1	2	1	1	2		1	73	1663	1	2		1	12	2			5
Hard Copy App			1				1			5	21			1	1	3				
IU Online App											3									
(blank)																				
Grand Total	40	2	2	3	1	1	3	1	1	108	3501	1	4	3	2	18	3	1		10

Two of the states closest to Indiana, Ohio (not shown but still has a majority using CommonApp 19 vs. 11) and Illinois, have more CommonApp applications because they are more familiar with that than having to go to the IU website. While in-states applicants use Apply IU more, but there is still a lot of Common App applications (with no clear distinction between counties in Indiana on why some have more CommonApp vs. Apply IU, as I searched up some counties that had more CommonApp applicants thinking those counties might not be near a IU campus but some more like Hamilton county.)

5. Short presentation highlighting differences between CommonApp and Apply IU App cont.

- Differences/Similarities with SAT scores – From looking at the average, and cutting the data in about half. Scores below 1070 tended to apply more through Apply IU while scores above 1070 tended to apply more through CommonApp. I made a line chart to demonstrate how this trend goes:

This could indicate higher scoring applicants use the CommonApp more when applying to colleges.



5. Short presentation highlighting differences between CommonApp and Apply IU App cont.

- Any differences/similarities in GPA – There isn't too much of a difference between GPA in the CommonApp and Apply IU App. Many applicants sit at 3.25 range, however ApplyIU does have more applicants. Since we didn't get too much with this dataset, I added in what we received from our last slide (SAT and how we believe higher SAT scored applicants apply through the CommonApp, so I applied 1070+ scores to the filter).
- When applying this filter, we get 685 applicants at 3.25GPA for ApplyIU vs. 878 applicants at 3.25GPA for CommonApp. When applying the opposite filter (SAT scores 1060 and below), we find 1156 applicants at 3.25GPA for ApplyIU vs. 932 applicants for CommonApp at 3.25GPA.

5. Short presentation highlighting differences between CommonApp and Apply IU App cont.

- Any other groupings to try? Any other data points you wish were available?
 - I tried grouping the Application method code and High school class rank percentile to see how this correlates to the SAT scores and GPA (usually high class rank would mean high GPA and SAT scores, which in the last two slides I've found data that suggests the higher SAT score the more likely the applicant will apply through CommonApp). There was no significant evidence with applicants of the higher percentile to suggest they went through one app more than the other. When applying the SAT score filter and using the filters from last slide (1060 and below and 1070+), I found some data. I tried the filter of 1060 and below first and switched the data to percentages, finding that 55.34% or 55% were through the Apply IU and 44.33% or 44% through CommonApp. When going with the filter of 1070, it was found that 43.51% or 44% of applicants applied through ApplyIU and 55.80% or 56% applied through CommonApp. This aligns with the last few slides, although percentile rank didn't matter as much with SAT score/GPA as I saw many who had lower SAT scores but were high percentile rank.
 - I tried Diploma type and SAT scores just to see what the data would look, 1060 and below had 55.40% or 55% applied through Apply IU while 43.13% or 43% applied through the CommonApp. For scores 1070+, 44.01% or 44% applied through Apply IU and 53.80% or 54% applied through the CommonApp. Without the SAT score filter, the percentages are nearly the same with 50.39% or 50% for Apply IU and 48.47% or 48% for CommonApp.
 - Maybe data over year of graduation, since when I graduated CommonApp wasn't really a thing, but I assume over the years since its creation that teachers/etc. have pushed it more.

6. Write a paragraph or two summarizing the findings.

- What do you see in the data? What relationships do you see?
 - I see a relationship between higher SAT scores and the application method, with higher scores more often applying through the CommonApp and lower scores applying through Apply IU.
- What limitations do you have in the dataset? What other questions would you have that you would pose back to the client as a result of this analysis?
 - Many of the data points don't really give any good data, i.e. CommonApp and Apply IU percentages/count are similar so yields not a lot of data from the analysis. I would ask the client what they like about each app (CommonApp and Apply IU)?
- Ultimately, what would be your final takeaways and recommendations to the client based on this preliminary analysis?
 - Ultimately, I would have the client focus more on ApplyIU, looking at the base data itself, more people apply through this app than anything (catering towards a mostly Indiana in-state audience). What I mentioned was asking the client what they like and dislike about each app, and trying to refine the ApplyIU app so a user could better understand it or even try asking users themselves why or if they prefer one over the other and make refinements (or make it easier to find for applicants on the IU pages).