University of Houston Peer Institutions

Identifying peer groups through cluster analysis

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Introduction

In an era of evidence-based decision-making, institutional researchers utilize benchmarking as a means of evaluating and improving university performance. University leadership use benchmarking metrics like six-year graduation rates to compare their performance to their peers, identify leading national institutions, and to identify best practices towards achieving institutional goals. In this research brief, I employ cluster analysis to identify University of Houston (UH) peers using IPEDS institutional data for the purpose of advancing university goals through comparative means.

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Data and Methods

Data used for this analysis come from the Integrated Postsecondary Education Data System (IPEDS) from the National Center for Education Statistics. IPEDS gathers data from every college and university as a requirement for institutions that participate in federal student financial aid programs. Data are reported annually and include metrics regarding enrollment, program completions, graduation rates, faculty and staff, finances, institutional prices, and student financial aid. These data are collected consistently across institutions that participate to allow for accurate comparisons. `Table 1` below outlines the institutional characteristics used for this analysis.

Table 1: Institutional Characteristics for Clustering, 2018 IPEDS Provisional Release.

Variables
Institution size category
Sector of institution
Carnegie Classification 2018 - Basic
Percent admitted - total
Admissions yield - total
SAT Reading/Writing 25th percentile score
SAT Reading/Writing 75th percentile score
SAT Math 25th percentile score
SAT Math 75th percentile score
ACT Composite 25th percentile score

Variables
ACT Composite 75th percentile score
Undergraduate enrollment, Fall 2018
Graduate enrollment, Fall 2018
Percent American Indian or Alaska Native
Percent African American
Percent Hispanic/Latino
Percent White
Percent two or more races
Percent Nonresident Alien
Percent Asian/Pacific Islander
Percent women
FTE for last academic year, 2017-18
Percent of full-time first-time undergraduates awarded Pell grants
Student-to-faculty ratio
All academic rank faculty
Six-year graduation rate, BA Degree
Total degrees awarded (Bachelor's, Masters, Doctoral)
Core revenues, total dollars (GASB)
Core expenses, total dollars (GASB)
Instruction expenses as a percent of total core expenses (GASB)
Research expenses as a percent of total core expenses (GASB)
Student service expenses as a percent of total core expenses (GASB)
Endowment assets (year end) per FTE enrollment (GASB)
Tuition and fees as a percent of core revenues (GASB)
In-state average tuition for full-time undergraduates
Out-of-state average tuition for full-time undergraduates
Total price of attendance in-state living on campus

In order to identify a sample of potential institutional peers, I filter upon three commonly used characteristics[1] (Luna 2018, Schueler 2016, Betsinger et al. 2013):

- **Sector of Institution:** Public, 4-year or above
- **Carnegie Classification 2018 Basic:** Doctoral Universities - Very High Research Activity
- **Institution Size Category:** 20,000 and above

To begin, there were 796 institutions identified as Public, 4-year or above. Filtering further by Carnegie Doctoral Universities - Very High Research Activity resulted in 94 institutions. Finally, in order to approximate the size of UH, filtering by the largest category available, 20,000 and above, yielded a sample size of 85 institutions for clustering.

[1] Luna, Andrew. 2018. "Selecting Peer Institutions Using Cluster Analysis." *Austin Peay State University.*

Schueler, Brian. 2016. "University of Wyoming Peer Institutions." *University of Wyoming.*

Betsinger, Alicia et al. 2013. "Peer Selection." *Texas Association for Institutional Research Conference.* Feb. 2013.

The data are one row per institution for at total of 34 different institutional metrics (excluding the three filter variables). Cluster analysis requires complete data with no missing values. Nine of the 85 institutions (11%) contained at least one missing value. Data imputation[2] was performed for these institutions for core reveue, revenue as percent of tuition, core expenses, instructional expenses as a percent of total core expenses, research expenses as a percent of total core expenses, student service expenses as a percent of total core expenses, endowment assets per FTE, SAT, and ACT scores. Of the 2,890 data points, only 50 data points were imputed, or only 1.7% of all the data points avaiable. Finally, data are standardized so that values of different scales are comparable.[3]

Cluster Analsysis

Cluster analysis is a set of statistical procedures used to calculate distance between different institutions.[4] This statistical method involves gathering institutional characteristics, calculating differences between universities on these characteristics, and creating clusters such that difference is minimized within clusters and maximized between clusters. In other words, this process groups institutions based on how similar they are and distinguishes them from other groups.

There are many ways to calculate distance measures. In this analysis, distance is calculated using the widely used Euclidean distance formula.[5] This formula calculates each institutions distance from each other based on the 34 different metrics. `Figure 1` (next page) visualizes the result of these distance calculations. Red values indicate greater distance (dissimilarity) and blue values indicate least distance (similarity). The diagonal indicates the intersection of one institution with itself, or perfect similarity.

K-means Clustering

K-means clustering is a machine learning algorithm used to partition data into a set of k groups where k represents a pre-specified number of groups (Boehmke 2017).[6] This statistical procedure classifies observations (eg. institutions) based on characteristics (eg. undergraduate enrollment) where observations in each cluster are as similar as possible while being as different as possible with members of another cluster. Each cluster has a center that represents the mean points (or centroids) of the data used to define those clusters. Ideal clusters should have little total within-cluster variation and should have small euclidean distances from their centroids.

[2] Missing values were imputed using `knnImputation`: For every observation to be imputed, it identifies k closest observations based on the euclidian distance and computes the weighted average (based on distance) of these k observations.

[3] Standardization is done by transforming the variables so that each variable has a mean of zero and standard deviation one.

[4] Lang, Daniel W. and Qiang Zha. 2004. "Comparing Universities: A Case Study between Canada and China." *Higher Education Policy* 17(4).

[5] Euclidean Distance

$$d_{euc}(x,y) = \sqrt{\sum_{i=1}^{n}(x_i - y_i)^2}$$

Other distance measures include Manhattan, Pearson correlation, Spearman correlation, and Kendall correlation distance. See *Appendix* for other distance measures.

[6] Boehmke, Bradley. 2017. UC Business Analytics R Programming Guide: k-Means Cluster Analysis. *University of Cincinnati*.
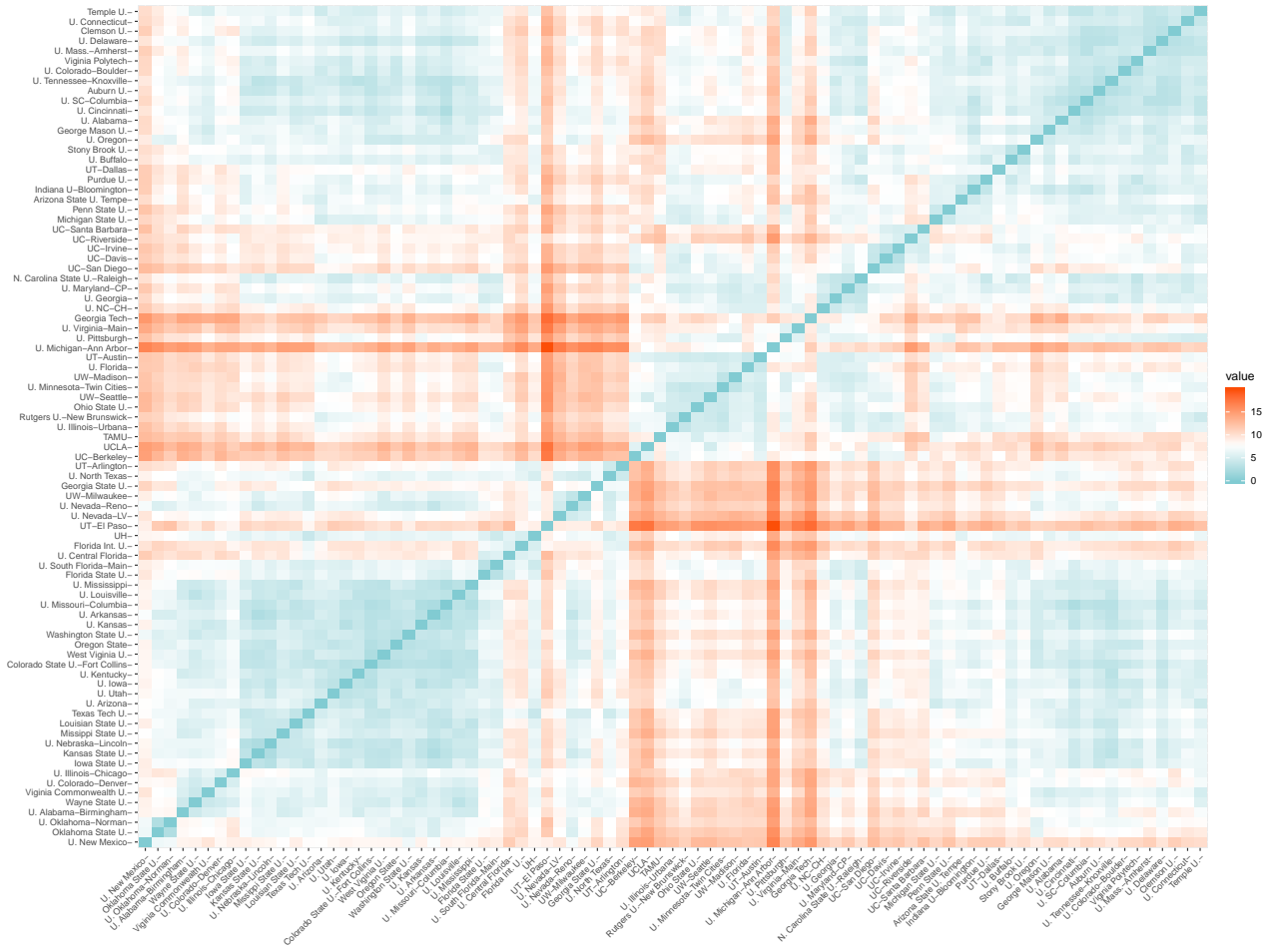
Figure 1: Euclidean Distance Matrix.

`Figure` 2 shows four different *k* specifications for clusters, from 2 to 5 cluster groups.
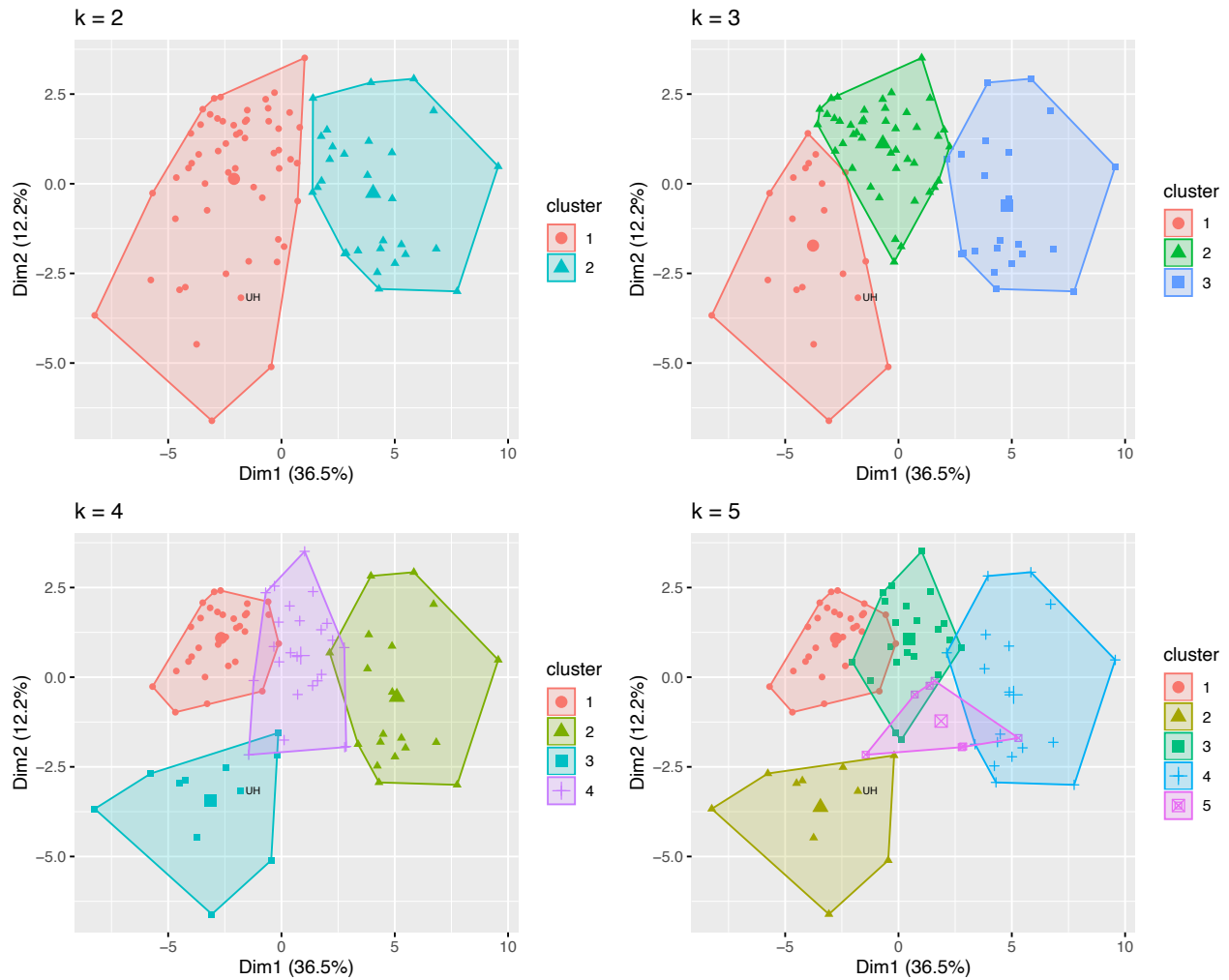

Figure 2: K-means Clusters.

Each data point represents one institution. Larger cluster symbols indicate the cluster centroid. UH is labeled in each cluster. Cluster *k*=2 shows clear separation of the clusters, which means no institutions overlap with other clusters. *k*=3, *k*=4, and *k*=5 all have institutions that overlap in other clusters, which means these clusters are not sufficiently different from each other.

Even though there are some overlaps in the *k*=5 specification, *k*=5 is the optimal cluster for determing UH peer institutions for two reasons. First, cluster 2, which contains UH and its peers, do not overlap with other clusters. This means cluster 2 is uniquely different from the other groups in this *k*-means specification. Second, and more im-

The x and y-axes in Figure 2 are artificial dimensions created by the clustering algorithm. They represent the amount of original information from the 34 variables used for clustering. Clustering plots distance in a n-dimensional space. Visualizing the clusters in a 2-dimensional space eliminates the the additional dimensions and information is lost (dimensionality reduction). Summing x and y reveals about half of the information used for clustering (48.7%) is represented in this 2D rendering.

portantly, cluster 2 in the $k=5$ specification has the smallest within
cluster sum of squares values in which UH is a member.[7] This means
UH's cluster is not only uniquely different from the other clusters, but
this cluster has the most similar members as measured by their dis-
tances from the centroid. For these reasons, I have selected $k=5$ as the
optimal specification for determing a UH peer group.

Looking closely at $k=5$ clusters in `Figure 3` and `Table 2` below,
we see nine institutional peers in the UH cluster. `Table 3` outlines the
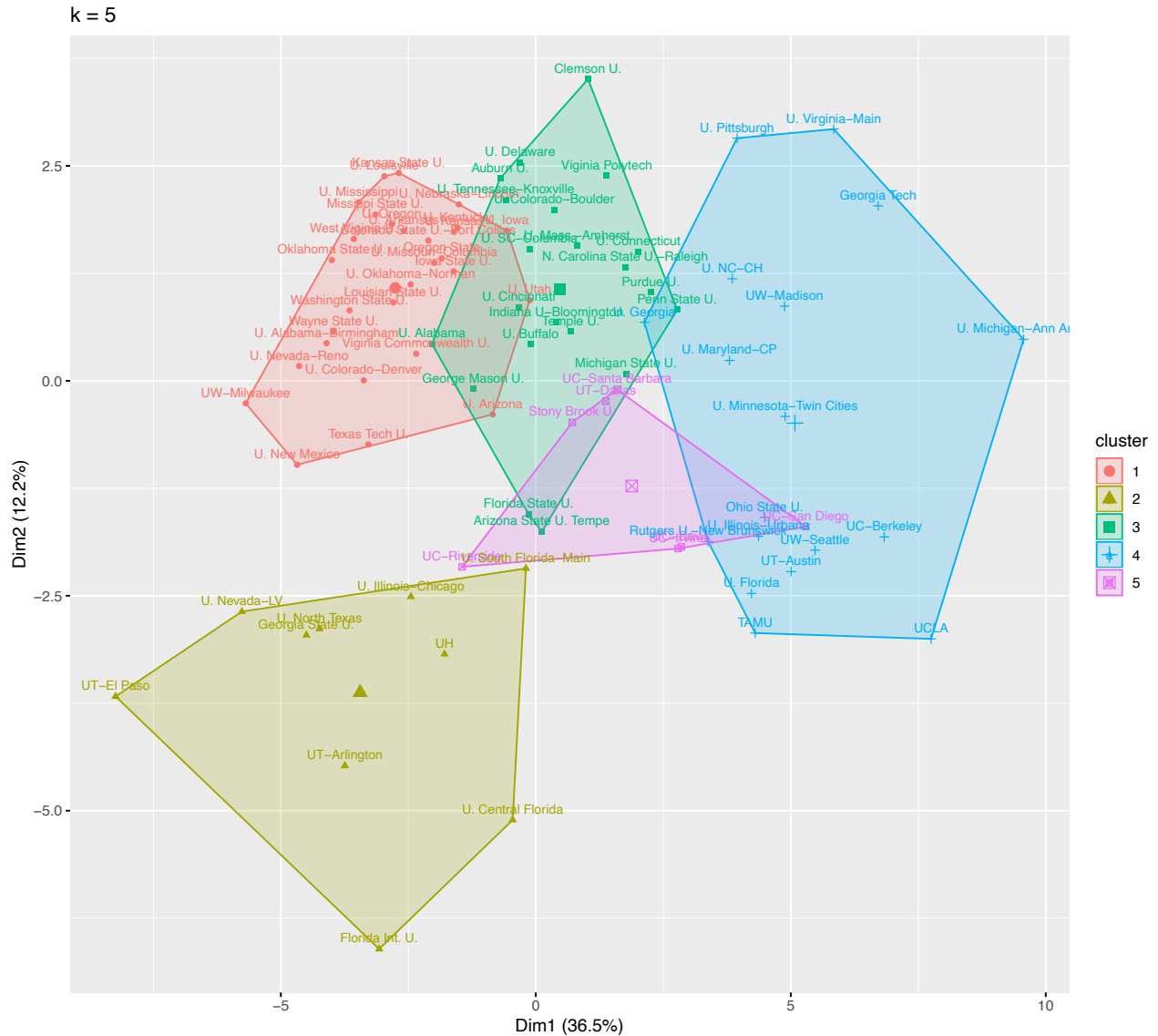min, max, mean, and standard deviations for this cluster.

[7] Within cluster sum of squares for
UH peer group by k specification:
$k=2$ 1349.7, $k=3$ 565.3, $k=4$ 468.7,
$k=5$ 276.1

Figure 3: $k=5$ Cluster by Institution.

Table 2: University of Houston Institutional Peers.

Institution
Florida International University
Georgia State University
University of Central Florida
University of Illinois at Chicago
University of Nevada - Las Vegas
University of North Texas
University of South Florida - Main Campus
University of Texas at Arlington
University of Texas at El Paso

Table 3: Summary Statistics for Cluster 2 UH Peers.

Variable	Min	Max	Mean	UH	Std.Dev.
Percent Admitted	43%	100%	68.70%	62%	17.70%
Admissions Yield	26%	43%	36.2%	37%	5.6%
Undergraduate Enrollment	20,783	58,821	33,883	38,348	12,103
Graduate Enrollment	3,687	13,427	8,550	7,976	2,991.60
Percent Native American	0%	0%	0%	0%	0%
Percent African American	3%	38%	12.60%	10%	9.40%
Percent Hispanic	10%	80%	33.30%	32%	21.60%
Percent White	7%	48%	31%	25%	14.30%
Percent Two or More Races	1%	10%	4%	3%	2.50%
Percent Nonresident Alien	4%	12%	7.70%	8%	2.70%
Percent Asian/P.I.	1%	21%	10%	21%	6.60%
Percent Women	50%	63%	55.90%	50%	3.60%
Percent Undergrad Awarded Pell	32%	68%	47%	43%	11.20%
Students per Faculty	18	30	23	22	3.5
All Academic Ranked Faculty	780	2147	1333	1316	405.7
FTE 2017-18	20,214	56,819	36,695	38,366	10,341
Price of Attendance In-State On Campus	$22,548	$30,866	$24,872	$23,225	$2,464
Tuition in State	$4,478	$11,913	$7,017	$7,911	$2,247
Tuition Out-of-State	$15,473	$24,117	$20,262	$20,271	$2,872
Six-Year Graduation Rate, Fall 2018	39%	73%	56%	59%	11.20%
Total Degrees Awarded	4707	16076	10059.7	10134	3829.6
Core Revenues, Total Dollars	$452 M	$2,547 M	$1,072 M	$1,087 M	$571 M
Core Expenses, Total Dollars	$415 M	$1,946 M	$916 M	$940 M	$425 M
Tuition & Fees as % of Core Revenues	15%	42%	28.70%	36%	7.70%
Instructional Expenses as % Core Exp.	30%	50%	37.60%	32%	6.60%
Research Expenses as % Core Exp.	4%	29%	16.80%	20%	7.90%

Variable	Min	Max	Mean	UH	Std.Dev.
Student Services as % Core Exp.	4%	15%	7.70%	4%	4%
Endowment Assests per FTE	$2,844	$21,959	$8,804	$21,959	$5,759
SAT Read/Write 25th Percentile	470	590	542	570	37.4
SAT Read/Write 75th Percentile	570	670	632	650	28.2
SAT Math 25th Percentile	470	580	530	560	32.7
SAT Math 75th Percentile	560	670	628	660	32.9
ACT Composite Score 25th Percentile	17	25	21.4	22	2.5
ACT Composite Score 75th Percentile	22	30	26.5	28	2.3

`Table 3` shows how UH compares relative to their peers for the 34 institutional metrics.[8] Notably, UH has less White students (25%, mean=31%) and the maximum number of Asian/Pacific Islander students compared to the peer group (21%, mean=10%). UH has an equal number of women compared to men, which is below the average (55.9%). Although UH has a larger undergraduate student body compared to the peer group, UH maintains a smaller student-to-faculty ratio (22:1, mean=23:1).

The total price of attendance for in-state, on-campus students for UH is $23,225, which is just below the mean of $24,872. In-state tuition is above the mean at $7,911 (mean=$7,017). However, UH out-of-state tuition is about on par with the average at $20,271 (mean=$20,262).

UH admits earn consistently higher than average SAT and ACT composite scores for the 25th and 75th percentiles. When it comes to student success, UH is above average. UH has a six-year graduation rate of 59%, which is 3 points higher than the peer group average of 56%. UH also graduates more students than their peers, 10,134 compared to the mean of 10,060.

In terms of finance, UH has higher core revenues and core expenses compared to their peers. UH core revenues are $1,087,368,643 and core expenses are $939,809,127. However, instructional expenses and student services expenses are smaller proportions of core expenditures compared to the peer group average, 32% and 4%, respectively (means=37.6% and 7.7%). 20% of UH core expenses are allocated to research, which is higher than the peer group average (16.8%).

Aspirational Peers

The nine institutions identified above are all comparable peers. As a group, they all have similar institutional characteristics on many dimensions. UH leadership can use these institutions to compare the quality of academic programs and policies towards meeting university

[8] See *Appendix* for mean values for clusters 1-5.

goals. In this section, I introduce another type of peer group that can be used to identify exceptional programs and policies that make sizable impacts on outcome measures.

Aspirational peers are "institutions with similar instituional characteristics yet are significantly different in several key performance indicators" (Luna 2018:2). In other words, these are institutions with very similar demographic and input characteristics - e.g. race/ethnicity and SAT scores, respectively - and that out-perform UH in outcome measures such as six-year graduation rates or endowments. To identify aspirational peers, I used the same clustering methodology, except this time I cluster institutions solely on demographic and other non-performance indicators:

1. Percent admitted
2. Admissions yield
3. SAT Reading and Math 25th percentile scores
4. Undergraduate enrollment
5. Race/Ethnicity
6. Percent women
7. Percent awarded Pell
8. FTE 2017-18
9. All academic ranked faculty
10. In-state and out-of-state tuition

`Figure 4` (next page) shows the optimal cluster specification for UH peers based on these 10 institutional charactersitics.[9]

The next step is to identify which of these institutions out-perform UH in six-year graduation rate, graduate enrollment, and endowment. `Table 4` outlines the six-year graduation rates, graduate enrollment, endowment assets per FTE, and research expenses as percent of core expenses for the seven identified aspirational peers:

[9] See *Appendix, Table 11* for summary statistics for Aspirational Peer Group.

Table 4: University of Houston Aspirational Peers.

Institution	6-Yr Grad Rate	Grad Enrollment	Endowment	% Expenses as Research
University of Houston	59%	7,976	$21,959	20%
University of California-Davis	86%	7,449	$11,984	26%
University of California-Irvine	83%	6,296	$12,220	21%
University of California-Riverside	75%	3,341	$7,490	18%
University of California-San Diego	86%	7,602	$20,034	32%
University of California-Santa Barbara	82%	2,906	$8,389	22%
University of Texas at Dallas	72%	8,883	$21,332	17%
Stony Brook University	72%	8,734	$9,757	12%

Figure 4: Aspirational Peer Cluster.

In her 2019 Fall Address,[10] President Khator announced the University of Houston's goal to achieve a six-year graduation rate of 70%. Of the sample of 85 institutions, universities with a six-year graduation rate between 60-70% are within 1 standard deviation above UH's six-year graduation rate (59%). That means all of the identified institutions in the cluster have a six-year graduation rate above 1 standard deviation, from 72% upwards to 86%. Despite having very similar institutional characteristics, these institutions qualify as aspirational peers by their over-performance in six-year graduation rates.

Graduate enrollment is another metric of interest for the University of Houston. Only two aspirational peers have larger graduate enrollment, University of Texas at Dallas and Stony Brook University. Two aspirational peers fell outside $\pm$ 1 standard deviation compared to UH (4,675 to 11,124): University of California - Santa Barbara and Univresity of California - Riverside.

UH has the largest endowment assets per FTE ($21,959) compared to the institutions identified in the cluster. All are within $\pm$ 1 standard deviation from UH. In terms of research expenses as percent of core expenses, four of the seven institutions in the cluster had greater research expenses compared to UH (20%). All are within $\pm$ 1 standard deviation (14%-27%) from UH with the exception of University of California - San Diego, which is greater than 1 standard deviation at 32%.

Of these performance indicators, each institution out-performed UH in six-year graduation rates. As a key indiciator of university performance, these seven institutions can be identified as aspirational peers even though there were mixed results for graduate enrollment, endowment assets, and research expenses as percent of core expenses. Another institutional goal for the University of Houston is to become a member of the Association of American Universities (AAU). AAU is an "association of leading comprehensive research universities distinguished by the breadth and quality of their programs of research and graduate education" (AAU Membership Policy).[11] Membership in AAU is by invitation only. Although not part of the data set of performance measures, five of the seven institutions in the cluster are AAU members, making them strong aspirational peers:

1. Stony Brook University
2. University of California - Davis
3. University of California - Irvine
4. University of California - Santa Barbara
5. University of California - San Diego

[10] http://www.uh.edu/president/communications/fall-address/2019/

[11] https://www.aau.edu/who-we-are/membership-policy

Conclusion

In this analysis, I have identified 9 peer institutions with characteristics similar to UH using official IPEDS data. I have also identified 7 aspirational peers with similar institutional charactersitics, but that out performed UH in key performance indicators. I used cluster analysis to statistically identify UH peers and aspirational peers for the purpose of benchmarking. We can look to these institutions to evaluate univeristy policies and programs towards developing a strategic plan for advancing university success. This analysis takes a systematic, evidence-based approach towards updating the various peers groups that have been identified historically. There are a total of 19 different historical peer groups identified by different UH departments and administrators with a total of 109 different peer instiutions (UHIR Consolidated Peer List for the University of Houston).[12] The results of this cluster analysis offers an unbiased, manageable list of peer institutions that can be updated programatically every year as institutions change dynamically from year-to-year. In this way, UH can continue its momentum towards becoming a highly-ranked National University and join the top quartile of universities graduating students in six years or less.

[12] Example lists include Human Resources peers, Center for Advancing UH Faculty Succcess peers, AAU peers, TARU peers, Division of Research NSF Peers, and Accountability peers to name a few. Of the 19 different peer group lists, the average list peer count is 14 with a min of 8 and a max of 34.

Appendix

Table 5: Mean Values for k=5 Clusters.

Variable	1	2	3	4	5
Percent Admitted	79.50%	68.70%	64.30%	41.70%	42%
Admissions Yield	32%	36.20%	28.30%	37.20%	22.30%
Undergraduate Enrollment	22046	33883.4	28515.7	31635.9	24540.6
Graduate Enrollment	6165.8	8550	8180.1	13092.1	6458.7
Percent Native American	0.70%	0%	0%	0%	0%
Percent African American	6.60%	12.60%	6.40%	5.20%	3.40%
Percent Hispanic	10.60%	33.30%	7.40%	9.90%	21%
Percent White	64.20%	31%	62.90%	50.70%	25%
Percent Two or More Races	4.30%	4%	3.30%	3.90%	4.10%
Percent Nonresident Alien	6.50%	7.70%	10.60%	12.90%	17%
Percent Asian/P.I.	4.80%	10%	6.60%	14.30%	26.10%
Percent Women	52.70%	55.90%	50%	51.20%	51.30%
Percent Undergrad Awarded Pell	27.90%	47%	20.90%	19.50%	35.90%
Student-Faculty Ratio	17.3	23	16.4	17.1	20.7
All Academic Ranked Faculty	1670.7	1333	1811.5	3058.4	1700.1
FTE 2017-18	25736.9	36694.7	34512.5	43502.6	29953.1
Price of Attendance In-State On Campus	26298	24872	28996	29172	32793
Tuition in State	8649	7017	11144	10983	11016
Tuition Out-of-State	24448	20262	30477	34480	37655
Six-Year Graduation Rate, Fall 2018	62.70%	56%	77.50%	86.30%	79.70%
Total Degrees Awarded	6527.8	10059.7	9160.1	11967.6	8060.1
Core Revenues, Total Dollars	$1039 M	$1072 M	$1312 M	$2919 M	$1655 M
Core Expenses, Total Dollars	$995 M	$916 M	$1225 M	$2591 M	$1547 M
Tuition & Fees as % of Core Revenues	30.70%	28.70%	39.10%	23.50%	29.70%
Instructional Expenses as % Core Exp.	34.60%	37.60%	41.90%	32.50%	38.90%
Research Expenses as % Core Exp.	21.70%	16.80%	18.90%	27.60%	21.10%
Student Services as % Core Exp.	4.60%	7.70%	5%	4.10%	7.70%
Endowment Assests per FTE	30759	8804	28231	91521	13029
SAT Read/Write 25th Percentile	540.7	542	585	627.8	594.3
SAT Read/Write 75th Percentile	643.2	632	668.5	711.1	681.4
SAT Math 25th Percentile	529.4	530	579.5	639.4	605.7
SAT Math 75th Percentile	642	628	689	755.6	737.1
ACT Composite Score 25th Percentile	21.7	21.4	24.8	27.9	25.3
ACT Composite Score 75th Percentile	27.9	26.5	30.4	32.7	31.9

Table 6: Institution by Cluster, 1 and 2.

Cluster 1	Cluster 2
Colorado State University-Fort Collins	Florida International University
Iowa State University	Georgia State University
Kansas State University	The University of Texas at Arlington
Louisiana State University and Agricultural & Mechanical College	The University of Texas at El Paso
Mississippi State University	University of Central Florida
Oklahoma State University-Main Campus	University of Houston
Oregon State University	University of Illinois at Chicago
Texas Tech University	University of Nevada-Las Vegas
University of Alabama at Birmingham	University of North Texas
University of Arizona	University of South Florida-Main Campus
University of Arkansas	
University of Colorado Denver/Anschutz Medical Campus	
University of Iowa	
University of Kansas	
University of Kentucky	
University of Louisville	
University of Mississippi	
University of Missouri-Columbia	
University of Nebraska-Lincoln	
University of Nevada-Reno	
University of New Mexico-Main Campus	
University of Oklahoma-Norman Campus	
University of Oregon	
University of Utah	
University of Wisconsin-Milwaukee	
Virginia Commonwealth University	
Washington State University	
Wayne State University	
West Virginia University	

Table 7: Institution by Cluster, 3 and 4.

Cluster 3	Cluster 4
Arizona State University-Tempe	Georgia Institute of Technology-Main Campus
Auburn University	Ohio State University-Main Campus
Clemson University	Rutgers University-New Brunswick
Florida State University	Texas A & M University-College Station
George Mason University	The University of Texas at Austin
Indiana University-Bloomington	University of California-Berkeley
Michigan State University	University of California-Los Angeles
North Carolina State University at Raleigh	University of Florida
Pennsylvania State University-Main Campus	University of Georgia
Purdue University-Main Campus	University of Illinois at Urbana-Champaign
Temple University	University of Maryland-College Park
The University of Alabama	University of Michigan-Ann Arbor
The University of Tennessee-Knoxville	University of Minnesota-Twin Cities
University at Buffalo	University of North Carolina at Chapel Hill
University of Cincinnati-Main Campus	University of Pittsburgh-Pittsburgh Campus
University of Colorado Boulder	University of Virginia-Main Campus
University of Connecticut	University of Washington-Seattle Campus
University of Delaware	University of Wisconsin-Madison
University of Massachusetts-Amherst	
University of South Carolina-Columbia	
Virginia Polytechnic Institute and State University	

Table 8: Institution by Cluster, 5.

Cluster 5
Stony Brook University
The University of Texas at Dallas
University of California-Davis
University of California-Irvine
University of California-Riverside
University of California-San Diego
University of California-Santa Barbara

Table 9: Top 10 Most Similar Peers by Distance Measure: Euclidean, Pearson, Manhattan (No Cluster Analysis)

Euclidean	Pearson Correlation	Manhattan
Texas Tech University	Florida Int. University	Texas Tech University
University of South Florida-Main	University of Central Florida	University of South Florida-Main
University of North Texas	UT-El Paso	Florida Int. University
Florida Int. University	Texas Tech University	University of North Texas
University of Arizona	UT-Arlington	Iowa State University
Florida State University	University North Texas	Louisian State University
Iowa State University	Georgia State University	UT-Arlington
Louisiana State University	University of South Florida-Main	University of Arizona
Arizona State University Tempe	University of Nevada-LV	Florida State University
George Mason University	Arizona State University Tempe	Oregon State

Table 10: Top 10 Most Similar Peers by Distance Measure: Spearman, Kendall (No Cluster Analysis)

Spearman Correlation	Kendall Correlation
Florida Int. University	Florida Int. University
Georgia State University	Georgia State University
UT-Arlington	University of North Texas
University of North Texas	UT-Arlington
Texas Tech University	Texas Tech University
University of Central Florida	University of Central Florida
UT-El Paso	UT-El Paso
University of South Florida-Main	University South Florida-Main
University of Nevada-LV	University of Nevada-LV
University of New Mexico	Arizona State University Tempe (tie)
	University of New Mexico (tie)

Table 11: Summary Statistics for Aspirational Peer Group

Variable	Min	Max	Mean	UH	Std.Dev.
Percent Admitted	29%	69%	44.50%	62%	15%
Admissions Yield	17%	37%	24.13%	37%	7.86%
SAT Read 25th Percentile	560	620	591.25	570	22.32
SAT Math 25th Percentile	550	640	600	560	32.95
Undergraduate Enrollment	17,522	38,348	26,266.50	38,348	7,109.98
Percent Native American	0%	0%	0%	0%	0%
Percent African American	2%	10%	4.25%	10%	2.96%
Percent Hispanic	11%	37%	22.38%	32%	8.73%
Percent White	14%	36%	25%	25%	7.63%
Percent Two or More Races	2%	7%	4%	3%	1.51%
Percent Nonresident Alien	8%	23%	15.88%	8%	5.49%
Percent Asian/P.I.	17%	33%	25.50%	21%	5.88%
Percent Women	43%	59%	51.12%	50%	4.58%
Percent Undergrad Awarded Pell	27%	50%	36.75%	43%	7.15%
FTE 2017-18	22,980	38,366	31,004.75	38,366	6,872.23
All Academic Ranked Faculty	873	2,564	1,652.13	1,316	686.56
Tuition In-State	$6,870	$13,034	$10,628.13	$7,911	$2,091.02
Tuition Out-of-State	$20,271	$40,434	$35,482.13	$20,271	$8,243.24