



EAST TENNESSEE STATE  
UNIVERSITY

**East Tennessee State University**  
*Peer Institution Selection*  
*Key Performance Indicator Development*

East Tennessee State University  
June 13, 2022



# Overview

- **Purpose of higher education**
  - The purpose of any non-profit organization is to demonstrate public value
- **Peer development**
  - Current Peers
  - Chronical of Higher Education – Peer Comparison
  - IPEDS data
  - Example Analysis
- **Key Performance Indicator Development**
  - Current KPIs
  - Example KPI types
- **Next Steps**



## Public Purpose of Higher Education

- **Access:** All students should have access to public post-secondary education
- **Equity:** Barriers to participation should be removed
- **Affordability:** Federal, state, and institutional financial aid policies should promote affordable access to post-secondary education
- **Quality:** Students should have the highest quality educational system affordable to them
- **Public Service:** Institutions should provide services to local communities to support broad societal needs
- **Research and Economic Development:** Institutions should serve as the driver of the current economy and vehicle for expansion of the knowledge economy





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## Types of Comparison Groups

- **Jurisdictional** – is used where the rationale for conducting the comparison is that all of the institutions are in a common jurisdiction, such within a system or state.
- **Competitor** – is used when the rationale for the comparison is the evaluate competitive standing within the educational arena.
- **Aspirational** – is made up of institutions that have one or more characteristics that the comparing institution is considering emulating.
- **Peer** – is comprised of institutions which are similar in regard to contextual factors important to a particular analysis, if not more generally.



## Current ETSU Peer Institutions

- Ball State University
- Central Michigan University
- East Carolina University
- Florida Atlantic University
- Georgia Southern University
- Indiana State University
- Marshall University
- Oakland University
- Old Dominion University
- Sam Houston State University
- Southern Illinois University –  
Edwardsville
- Texas Woman’s University
- University of Arkansas at Little Rock
- University of Missouri – Kansas City
- University of North Carolina at  
Charlotte
- University of North Carolina at  
Greensboro
- University of Northern Colorado
- University of South Alabama
- Wright State University – Main Campus

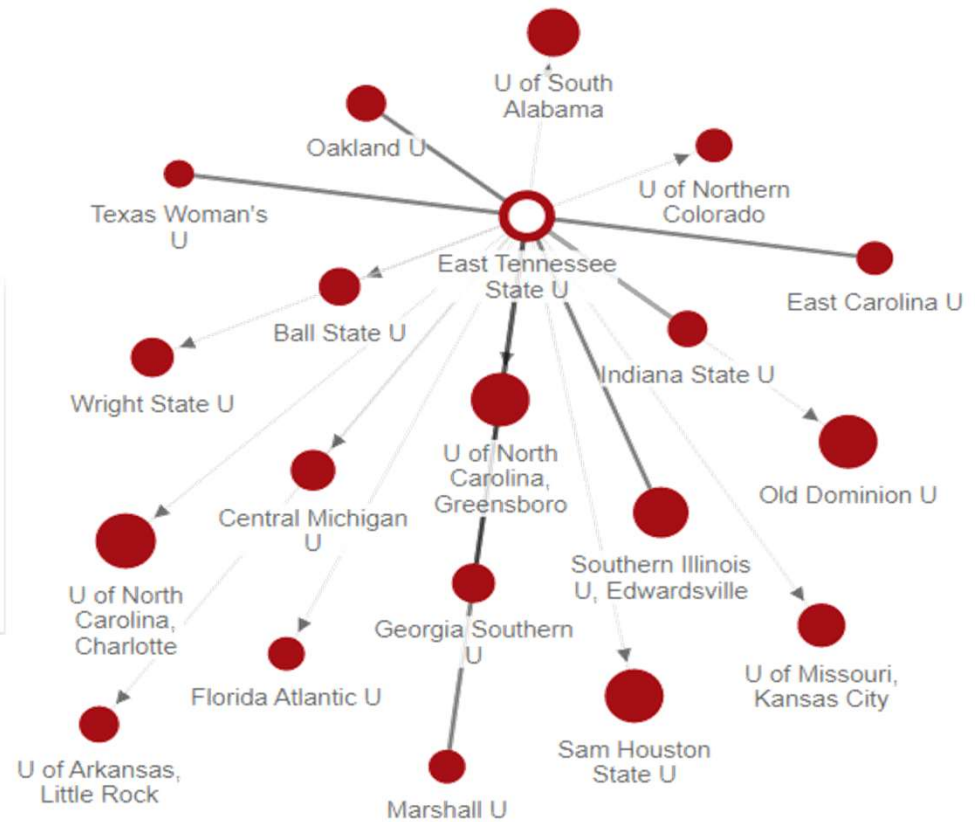
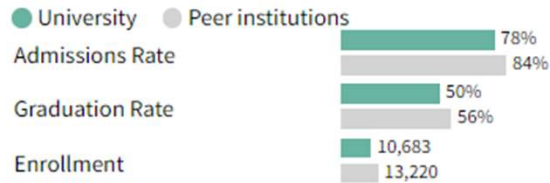


# Peer Institution Selection Process

## East Tennessee State University

Johnson City, TN | Public Doctoral

19 colleges selected as peers by this college. 20 colleges selected this college as a peer. 7 peer colleges that also chose this college as a peer.



Source: [Who Does Your College Think Its Peers Are? \(chronicle.com\)](http://chronicle.com)



## **IPEDS Peer Institution Analysis**

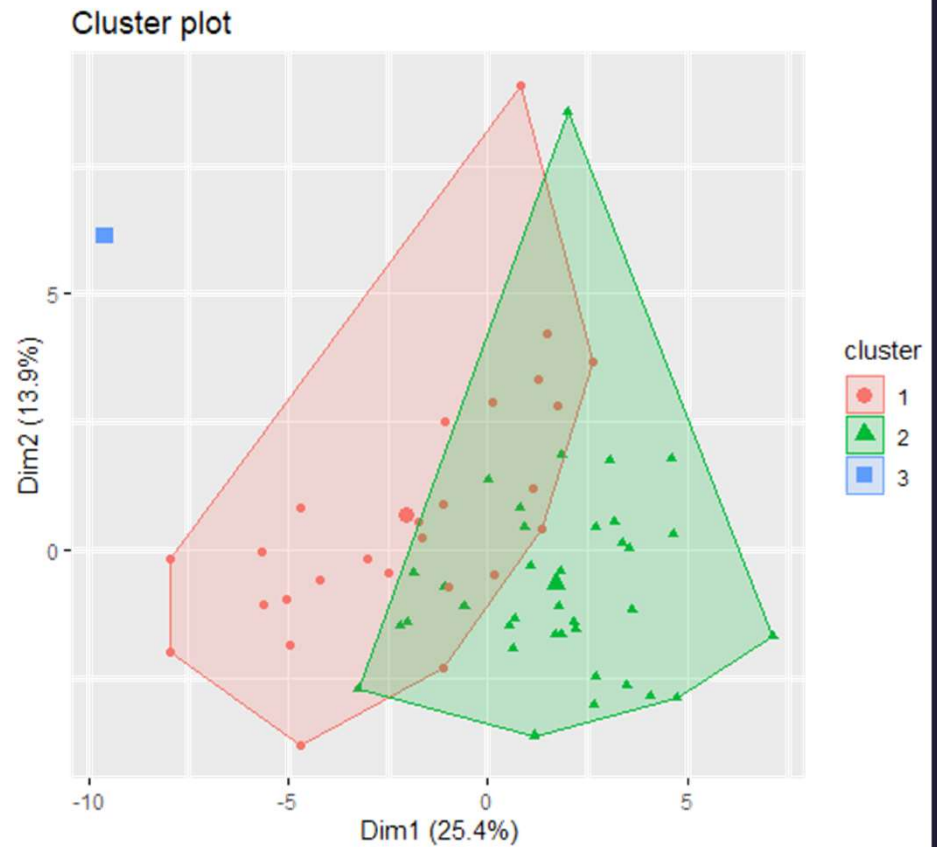
- **Predetermined Categories – 65 institutions including ETSU**
  - **Title IV Participating**
  - **Public 4-Year or Above**
  - **Degree Granting**
  - **Doctor's Degree Research/Scholarship & Professional Practice**
  - **Primarily Bachelor & Above**
  - **Doctoral: High Research Activity**
- **Peer Selection Process**
  - **38 Variables from the three most recent years of IPEDS data to inform Peer Model**
  - **K-Means Clustering method for peer selection - example**





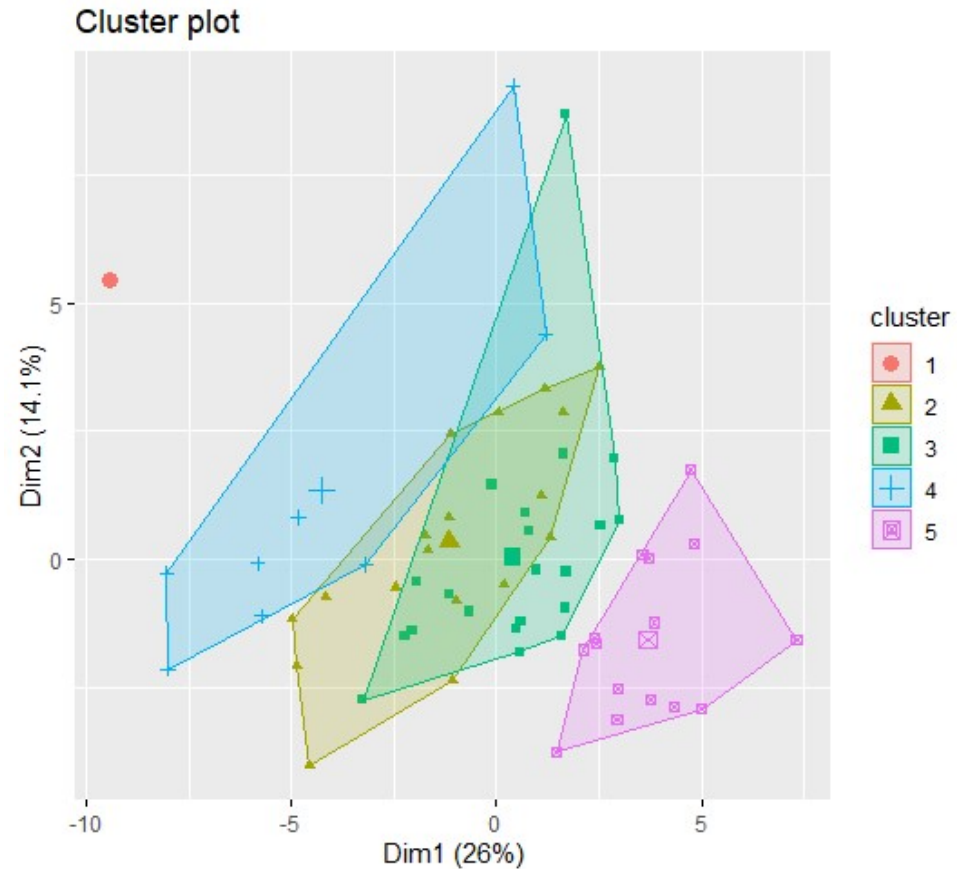
# K Means Cluster Analysis R - 3 Clusters

Arkansas State University  
Boise State University  
**Central Michigan University**  
Cleveland State University  
East Tennessee State University  
Florida Agricultural and Mechanical University  
**Georgia Southern University**  
Idaho State University  
Louisiana Tech University  
**Marshall University**  
Montclair State University  
New Mexico State University-Main Campus  
North Dakota State University-Main Campus  
**Oakland University**  
**Old Dominion University**  
Rutgers University-Camden  
South Dakota State University  
Texas A & M University-Corpus Christi  
Texas Southern University  
The University of Montana  
University of Akron Main Campus  
University of Alabama in Huntsville  
**University of Arkansas at Little Rock**  
University of Colorado-Colorado Springs  
University of Idaho  
University of Louisiana at Lafayette  
University of Maryland Eastern Shore  
University of Massachusetts-Dartmouth  
University of Massachusetts-Lowell  
**University of Missouri-Kansas City**  
University of Missouri-St Louis  
University of North Carolina Wilmington  
**University of South Alabama**  
University of South Dakota  
Wichita State University  
William & Mary  
**Wright State University-Main Campus**



# K Means Cluster Analysis R - 5 Clusters

Boise State University  
**Central Michigan University**  
Cleveland State University  
East Tennessee State University  
**Georgia Southern University**  
Montclair State University  
New Mexico State University-Main Campus  
North Dakota State University-Main Campus  
**Oakland University**  
**Old Dominion University**  
South Dakota State University  
The University of Montana  
University of Akron Main Campus  
University of Idaho  
University of Louisiana at Lafayette  
University of Massachusetts-Lowell  
**University of Missouri-Kansas City**  
University of North Carolina Wilmington  
**University of South Alabama**  
Wichita State University  
William & Mary  
**Wright State University-Main Campus**



# K Means Cluster Analysis R - 10 Clusters

Boise State University

**Central Michigan University**

East Tennessee State University

**Georgia Southern University**

Montclair State University

New Mexico State University-Main Campus

North Dakota State University-Main Campus

**Old Dominion University**

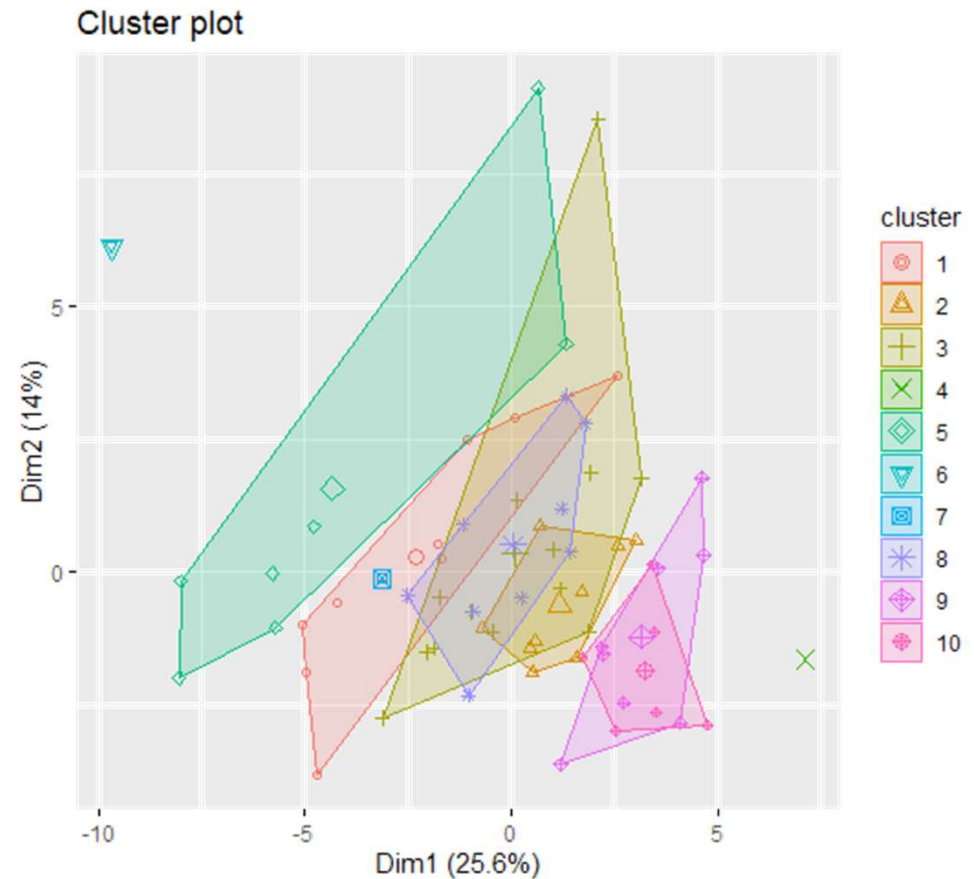
University of Idaho

University of Massachusetts-Lowell

University of North Carolina Wilmington

**University of South Alabama**

William & Mary



## IPEDS Peer Institution Analysis

- **Full Analysis:**
  - “Highly Similar” – Categorized in the same group as ETSU for all 3 clustering techniques
  - “Similar” – Categorized in the same group as ETSU for 2 of the clustering techniques
  - “Somewhat Similar” – Categorized in the same group as ETSU for 1 of the clustering techniques
  - “Not Similar” – Did not get categorized in the same group as ETSU for any of the clustering techniques
- **The 3 different clustering approaches used:**
  - kMeans (Lloyd algorithm) – uses squared Euclidean distances from centroids for classification
  - PAM or “Partition Around Medoids” – uses Manhattan distances from medoids for classification
  - Modified kMeans gMADD() – uses Mean Absolute Difference of Distances (MADD) from centroids for classification



## K Means Cluster Analysis R - 10 Clusters

ID	Inst	Grp_kmeans_Lloyd	Grp_PAM_manhattan	Grp_MADD	chkSum	Category
106458	Arkansas State University	2	1	0	3	Highly Similar
202134	Cleveland State University	2	3	0	2	Similar
220075	East Tennessee State University	2	1	0	3	ETSU
237525	Marshall University	2	1	0	3	Highly Similar
147703	Northern Illinois University	2	3	0	2	Similar
180489	The University of Montana	2	1	0	3	Highly Similar
200800	University of Akron Main Campus	2	3	0	2	Similar
100706	University of Alabama in Huntsville	2	1	0	3	Highly Similar
126580	University of Colorado Colorado Springs	2	3	0	2	Similar
160658	University of Louisiana at Lafayette	2	3	0	2	Similar
220862	University of Memphis	3	1	0	2	Similar
178402	University of Missouri-Kansas City	2	1	0	3	Highly Similar
178420	University of Missouri-St Louis	2	1	0	3	Highly Similar
199148	University of North Carolina at Greensboro	3	1	0	2	Similar
102094	University of South Alabama	2	1	0	3	Highly Similar
219471	University of South Dakota	2	1	0	3	Highly Similar
230728	Utah State University	3	1	0	2	Similar
156125	Wichita State University	2	1	0	3	Highly Similar
206604	Wright State University-Main Campus	2	3	0	2	Similar





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## Key Performance Indicators – Potential Categories

- Enrollment
- Student Success
- Post-Graduation Outcomes
- Equity and Inclusion
- Research
- Faculty/Staff
- Finance
- Facilities



# Key Performance Indicators

East Tennessee State University Strategic Plan Tracking Dashboard November 2021				
Category/Metric	Value 2016	Value 2021	Goal 2026	Status
<b>University Enrollment</b>				
Freshmen Applications	6,672	8,565	12,000	↑
First-year Average ACT Score	23.2	23.4	24	↑
First-time Freshmen	1,886	1,856	3,000	↔
First-time Transfers	1,027	1,137	2,000	↑
Undergraduate Enrollment	11,065	10,309	15,800	↓
Graduate Enrollment	2,354	2,425	2,854	↑
Out-of-State Enrollment	2,180	2,252	2,500	↑
International Enrollment	646	265	1,000	↓
Overall University Enrollment	14,285	13,543	18,000	↓
<b>Research and Service</b>				
Research Expenditures	\$11,395,380	\$11,119,000	TBD	↑
Externally Sponsored Research	\$7,653,066	\$16,054,862	TBD	↑
Extramural Funding Proposals - Submitted	\$94,438,572	\$158,952,772	TBD	↑
Extramural Funding Proposals - Funded	\$38,811,378	\$82,133,208	\$60,000,000	↑
<b>Stewardship of Place</b>				
Number of Service Hours	48,707	-	TBD	-
Patient Encounters	414,493	356,170	TBD	↔
Total Funds Raised - Giving	\$7,400,000	\$35,075,947	\$25,000,000	↑
Percent Alumni Giving	3.5%	2.9%	10%	↓





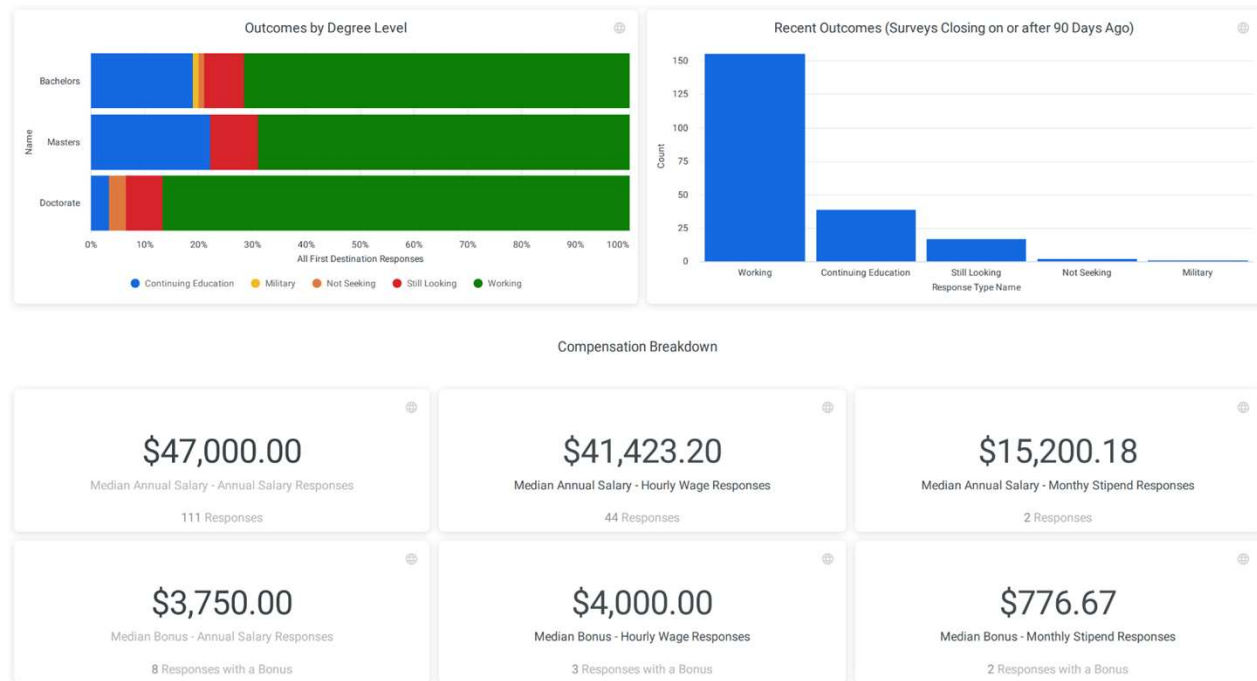
# Key Performance Indicators

East Tennessee State University Strategic Plan Tracking Dashboard November 2021				
Category/Metric	Value 2016	Value 2021	Goal 2026	Status
<b>Student Success</b>				
Retention Rate	71.3%	67.0%	85%	↑
Graduation Rate	40.1%	51.0%	60%	↑
Graduation Rate - Male	37.2%	42.7%	60%	↑
Graduation Rate - Female	42.3%	57.1%	60%	↑
<b>Equity and Inclusion</b>				
Student Race/Ethnicity % Non-White	18.7%	23.9%	33.0%	↑
Graduation Rate Non-White	31.4%	38.9%	60.0%	↑
Students - Percent Female	58.2%	63.5%	TBD	↔
Students - Percent Male	41.8%	36.5%	TBD	↔
Full-time Staff - Percent Female	57.4%	58.0%	TBD	↔
Full-time Staff - Percent Non-White	15.3%	13.0%	TBD	↔
<b>Teaching Environment</b>				
Total Instructional Faculty - Main Campus	942	926	TBD	↑
Percent Full-time Faculty - Main Campus	62.0%	62.0%	TBD	↑
Student-to-Faculty Ratio - Main Campus	15.9	16	18	↔
<b>Empowering Employees</b>				
Great Colleges to Work For Rating	61.0%	70.0%	77% Favorability	↑
Voluntary Staff Turnover	9.2%	10.6%	TBD	↓



# Post Graduation Outcomes – Class of 2020

- 73.5% Working
- 18% Cont. Ed
- 8% Looking
- 1% Not Looking
- 0.5% Military
- 5.5% Response
- 3,000+ Surveys



Excludes HEP data (purchased data from LinkedIn etc.) that was used for the class of 2019 but will acquire this summer and update for BOT



## Approaches to KPI Display

- **Strategy Focused**

- University of Tennessee Knoxville: [Strategic Plan - The University of Tennessee System](#)

- **Initiative Focused**

- Ohio State: [University Dashboard and Scorecards | Office of Academic Affairs, The Ohio State University \(osu.edu\)](#)

- **Accountability Focused**

- Adams State: [Dashboard - Institutional Effectiveness - Adams State University](#)



## Next Steps – Summer 2022

- Internal deliberations to narrow list of peer institutions
- Review KPIs with leadership and develop operational definitions for the indicators discussed today
- Implement dashboard of KPIs
- Ensure internal metrics of performance are aligned with institutional KPIs
- Report of institutional performance at every board meeting

