

Key Performance Indicators (KPIs) Report

Master of Data Science Program

2022-2023

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Prince Sattam bin Abdulaziz University
College of Computer Engineering
and Sciences
Key Performance Indicators (KPIs) Report
Data Science Master Program
Academic year: 2022-2023

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I-Key Performance Indicators (KPIs) Report for Data Science Master Program Academic year: 2022-2023

1-Introduction

1.1-Measurement and evaluation processes are one of the important mechanisms that indicate the program's achievement of quality assurance standards. Therefore, the current report aims to describe the results of the 19 key performance indicators for the Master's Program in Data Science for the year 2022-2023, which include the 19 main key performance indicators identified by the NCAAA. The program key performance indicators include a number of qualitative indicators that depended on the results of opinion polls for the beneficiaries of the program in addition to quantitative indicators based on statistics. The current report provides a logical analysis of the results and data achieved by examining the various and relevant data and comparing them with reference points. The internal and external identification of areas of strength and weakness, and disclosure of the reasons behind the achieved results. The report also includes the program's development plans to address weaknesses, which the results indicated did not achieve the target levels.

1.2- Internal benchmarks: The Data Science master program has taken its own performance for the past year as an internal benchmark, since the academic year 2020-2021 is the first year of the program, the internal benchmarking is not available for this year.

1.3- External benchmarking: Executive master program of data science of other universities in KSA, the data for the academic year 2021-2022 is not available for the external program.

1.4- Check performance indicators: The results of measuring the main key performance indicators for the year 2022-2023 showed that almost all of these indicators achieved the targeted levels.

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2-List of Program Performance Indicators

Standard	KPIs Code	Key Performance Indicators
Standard 1: MISSION AND GOALS	KPI-PG-1	Percentage of achieved indicators of the program operational plan objectives
Standard 3: TEACHING AND LEARNING	KPI-PG-2	Students' Evaluation of quality of learning experience in the program
	KPI- PG-3	Students' evaluation of the quality of the courses
	KPI- PG-4	Students' evaluation of the quality of scientific supervision
	KPI- PG-5	Average time for students' graduation
	KPI- PG-6	Rate of students dropping out of the program
	KPI- PG-7	Graduates' employability
	KPI- PG-8	Employers' evaluation of the program graduates' competency
Standard 4: STUDENTS	KPI-PG-9	Students' satisfaction with the provided services
Standard 5- FACULTY MEMBERS	KPI-PG-10	Ratio of students to faculty members
	KPI-PG-11	Percentage of faculty members' distribution based on academic ranking
	KPI-PG-12	Proportion of faculty members leaving the program
Standard 6- Learning	KPI-PG-13	Satisfaction of beneficiaries with learning resources

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Resources, Facilities, and Equipment	KPI-PG-14	Satisfaction of beneficiaries with research facilities and equipment
Standard 7- RESEARCH AND PROJECTS	KPI-PG-15	Percentage of publications of faculty members
	KPI-PG-16	Rate of published research per faculty member
	KPI-PG-17	Citations rate in refereed journals per faculty member
	KPI-PG-18	Percentage of students' publication
	KPI-PG-19	Number of patents, innovative products, and awards of excellence

3- A summary of the indicators that achieved the target

Standard	Number of performance indicators	The number of performance indicators that have achieved the target
Standard 1: Mission and Goals	1	0
Standard 3: Teaching and Learning	7	6
Standard 4: Students	1	1
Standard 5- Faculty Members	3	0
Standard 6- Learning Resources, Facilities, and Equipment	2	0
Standard 7- Research and Projects	5	5

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Total	19	12
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4- Presentation of the results of the performance indicators of the program

Code	Key Performance Indicators	Actual Benchmark	Target Benchmark	Internal Benchmark	External Benchmark	New Target Benchmark
KPI-PG-1	Percentage of achieved indicators of the program operational plan objectives	75%	95%	75%	NA	95%
KPI-PG-2	Students' Evaluation of quality of learning experience in the program	4.63	3.75	4	NA	4
KPI- PG-3	Students' evaluation of the	4.88	4.45	4.45	NA	4.45

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	quality of the courses					
KPI- PG-4	Students' evaluation of the quality of scientific supervision	4.11	4	4.1	NA	4
KPI- PG-5	Average time for students' graduation	4	4	4	NA	4
KPI- PG-6	Rate of students dropping out of the program	0	0%	0%	NA	0%
KPI- PG-7	Graduates' employability	73%	90%	73%	NA	90%
KPI- PG-8	Employers' evaluation of the program graduates' competency	4.91	3.75	4.9	NA	4.5
KPI-PG-9	Students' satisfaction with the provided services	3.67	3.75	4	NA	4
KPI-PG-10	Ratio of students to faculty members	0.5:01	1:01	1.3:1	NA	1:01
KPI-PG-11	Percentage of faculty members' distribution based on academic ranking	Prof: 0% Assoc.: 20% Assist: 80% Male: 60%	Prof: 22.9% Assoc.: 43.8% Assist: 33.3%	Prof: 0% Assoc.: 28.5% Assist: 71% Male: 71.4%	NA	Prof: 22.9% Assoc.: 43.8% Assist: 33.3%

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		Female: 40%	Male: 66.7% Female: 33.3%	Female: 28.5%		Male: 50% Female: 50%
KPI-PG-12	Proportion of faculty members leaving the program	0%	0%	28.6	NA	0%
KPI-PG-13	Satisfaction of beneficiaries with learning resources	3.88	3.75	2.3	NA	3.75
KPI-PG-14	Satisfaction of beneficiaries with research facilities and equipment	3.84	3.75	3	NA	4
KPI-PG-15	Percentage of publications of faculty members	100%	75%	100%	NA	100%
KPI-PG-16	Rate of published research per faculty member	5:01	2:01	5:01	NA	5:01
KPI-PG-17	Citations rate in refereed journals per faculty member	20:01	20:01	20:01	NA	25:01
KPI-PG-18	Percentage of students' publication	45.40%	10%	45.40%	NA	50%
KPI-PG-19	Number of patents, innovative products, and awards of excellence	1	1	1	NA	1

5-Analyze the results of each indicator

Standard 1: Mission and Goals

Table1: KPI-PG-1: Percentage of achieved indicators of the program operational plan objectives.

NCAAA KPI Reference Number: KPI-PG-1: Percentage of achieved indicators of the program operational plan objectives				
Data Science Master Program KPI Reference Number: KPI-PG-1				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
75%	95%	70%	NA	95%

- KPI Analysis of Percentage of achieved indicators of Data Science Master Program operational plan objectives

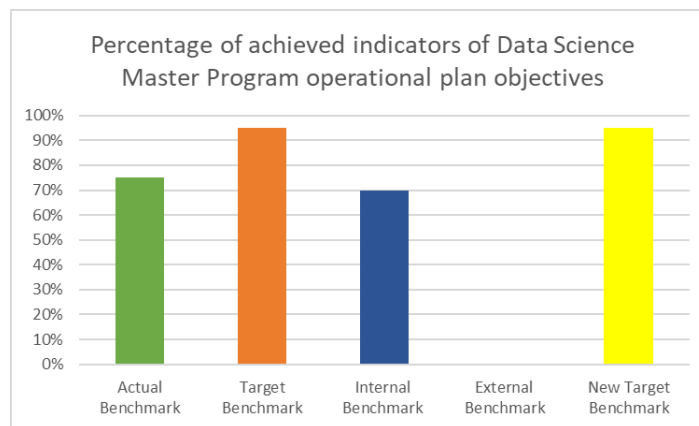


Figure 1: Percentage of achieved indicators of the program operational plan objectives.

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Analysis (Strengths and Recommendations): The provided table offers insights into the achievement and execution of the operational plan objectives for the Data Science Master Program at PSAU University during the 2022-2023 academic year. The department employed 19 Key Performance Indicators (KPIs) to evaluate the program's objectives and track the annual progress of the operational plan. Notably, there was observable progress in the 2022-2023 academic year, with the KPI scoring an average of 75%, signifying an improvement from the previous academic year (2020-2021). However, it's important to note that the established target has not been fully met yet. This indicates the need for further efforts and strategies to reach and exceed the desired benchmarks.

Strengths:

- A clear mission and the involvement of the faculty members and students.
- Students' satisfaction over the courses offered the facilities and services available to them.
- Program advisory committees evaluate the program and recommend updates in order to measure the extent of the performance in accordance with the strategic plan.

Recommendations:

- The involvement of the program alumni with the job market should be encouraged.
- Actual performance should be improved based on the suggested improvement plans.

*Explanation:

- Name of the internal benchmark provider: The program has taken its own performance for the past year as an internal benchmark.
- Why was this internal benchmark provider chosen? As it is the only Data science Master program at PSAU University, the program has taken the average of its own performance indicators during the last year (2020-2021).

How was the benchmark calculated?

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Percentage of performance indicators of the operational plan objectives of the program that have achieved the targeted annual level to the total number of indicators targeted for these objectives in the same year.

**Explanation:

No external Benchmark

Standard 3: TEACHING AND LEARNING

Table2: KPI-PG-2: Students' evaluation of quality of learning experience in the program.

NCAAA KPI Reference Number: KPI-PG-2: Students' Evaluation of quality of learning experience in the program				
Data Science Master Program KPI Reference Number: KPI-PG-2				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
4.63	3.75	4	NA	4

1-KPI Analysis of Students' Evaluation of quality of learning experience in the program

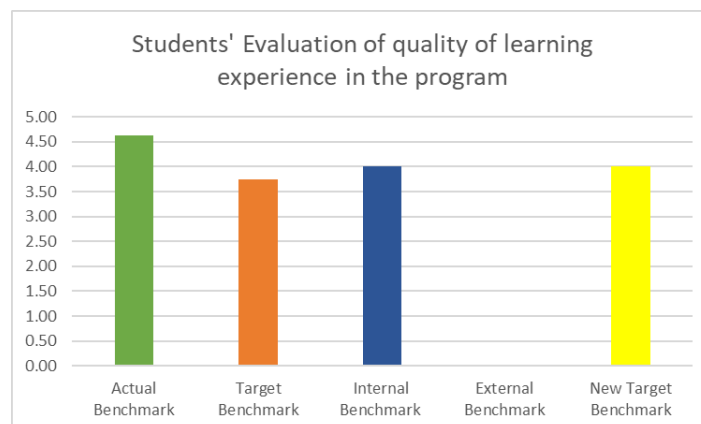


Figure 2: Students' evaluation of quality of learning experience in the program.

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2-Analysis (strengths and recommendations): This academic year, which is the third year of the program (2022-2023), has seen the actual benchmark of students' evaluation of quality of learning experience in the program surpasses the target benchmark. Notably, it surpasses the internal benchmark too. It's important to highlight that the measurement of this benchmark was carried out through the program evaluation survey, with no external benchmark available for comparison. The new target benchmark value for this standard is 4.

Strengths:

The students' response regarding this indicator is satisfactory.

- Excellent program curriculum, variety of electives, and good communication with the teachers and the administrators

-Recommendations:

- The program should improve the facilities like classrooms, laboratories, library etc.
- The program should enrich the library with books.

*Explanation:

Name of the internal benchmark provider: The program has taken its own performance for the past year (2021-2022) as an internal benchmark. The program has taken the average of its own performance indicators during the past year (2020-2021) as an internal benchmark.

How was the benchmark calculated?

The KPI is derived from the mean of students' responses regarding the quality of their learning experience in the program. This data is based on question 62 in the annual exit survey.

**Explanation:

No external Benchmark

Table3: KPI-PG-3: Students' evaluation of the quality of the courses.

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NCAAA KPI Reference Number: KPI-PG-3: Students' evaluation of the quality of the courses				
Data Science Master Program KPI Reference Number: KPI-PG-3				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
4.88	3.75	4.45	NA	3.75

1-KPI Analysis of Students' evaluation of the quality of the courses

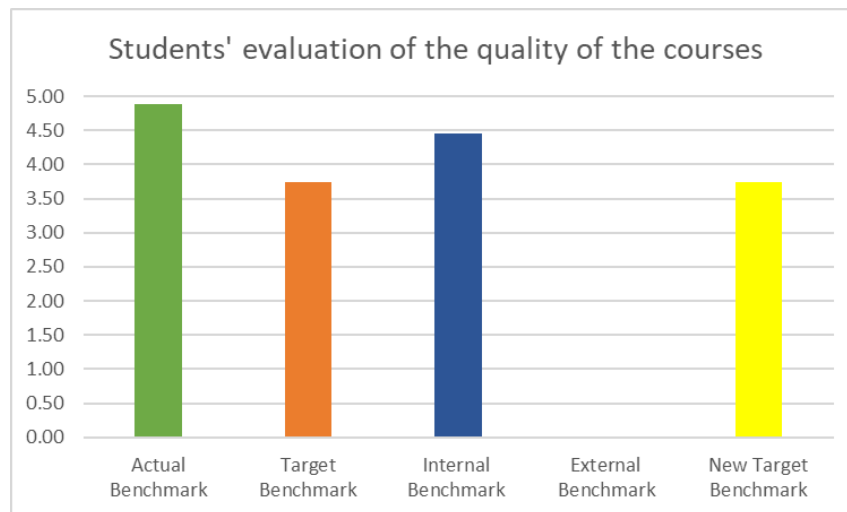


Figure 3: Students' evaluation of the quality of the courses.

2-Analysis (Strengths and Recommendations): As indicated in the table provided, the current KPI exceeds both the target benchmark and the internal benchmark in the program's second academic year. Notably, there is no external benchmark available for comparison. This positive trend suggests commendable program performance. To enhance the thoroughness of program performance evaluation, it is recommended to consider exploring the establishment of external benchmarks for a more comprehensive assessment.

Strengths:

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- The curriculum exhibits clear definitions. Notably, it delineates various elective courses and outlines the connection of labs with each learning objective.
- Emphasizing research and projects holds substantial value.
- The contents of the courses are thoroughly established.

Recommendations:

- Introduce novel techniques within courses to enhance overall quality.
- Incorporate more practical work to enrich the learning experience.
- Enhance the quality of labs and explore the utilization of virtual labs.

*Explanation:

Name of the internal benchmark provider: The program has taken the average of its own performance indicators during the past year (2020-2021) as an internal benchmark.

How was the benchmark calculated?

The benchmark was determined by averaging the overall rating provided by students concerning the quality of courses, which is based on their responses to the question 'Overall, I am satisfied with the quality of this course.'

**Explanation:

No external Benchmark

Table4: KPI-PG-4: Students' evaluation of the quality of scientific supervision.

NCAAA KPI Reference Number: KPI-PG-4: Students' evaluation of the quality of scientific supervision				
Data Science Master Program KPI Reference Number: KPI-PG-4				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
4.11	4	4.1	NA	4

1-KPI Analysis of Students' evaluation of the quality of scientific supervision

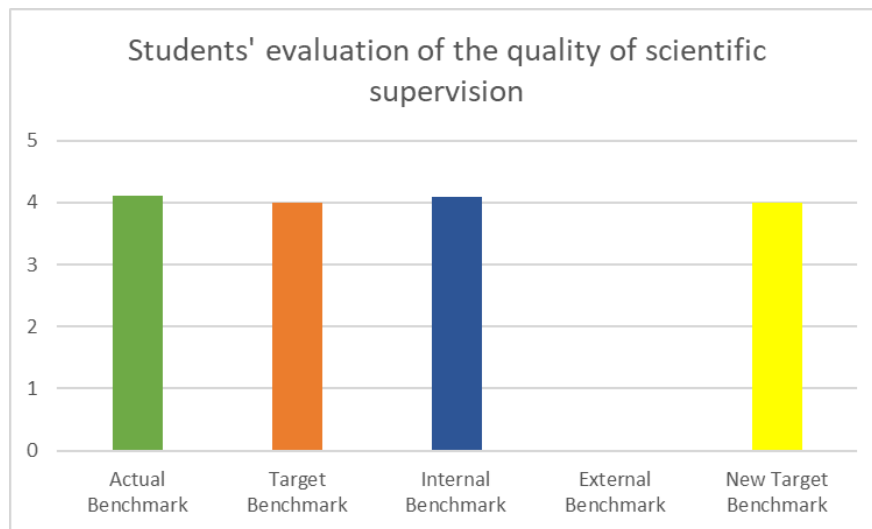


Figure 4: Students' evaluation of the quality of scientific supervision.

2-Analysis (strengths and recommendations):

The current benchmark slightly surpasses the targeted benchmark for the academic year 2022-2023 within the program, measured at the graduation date. There are no internal or external benchmarks in place.

Strengths:

- The accessibility of references and resources pertaining to my subject is essential.

Recommendations:

- In terms of recommendations, supervisors should enhance their interaction with students, encouraging active attendance and participation.

*Explanation:

There are no internal or external benchmarks established. The measurement for this KPI is consistently conducted at the conclusion of the final year of graduation, utilizing the **“Evaluation of the quality of scientific supervision of university theses”** survey.

How was the benchmark calculated?

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Average students' overall rating of the quality of scientific supervision on an all-point scale in an annual survey. Average of all questions in the "Evaluation of the quality of scientific supervision of university theses " survey.

**Explanation:

No external Benchmark nor internal benchmark.

Table5: KPI-PG-5: Average time for students' graduation.

NCAAA KPI Reference Number: KPI-PG-5: Average time for students' graduation				
Data Science Master Program KPI Reference Number: KPI-PG-5				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
4	4	4	NA	4

1-KPI Analysis of Average time for students' graduation

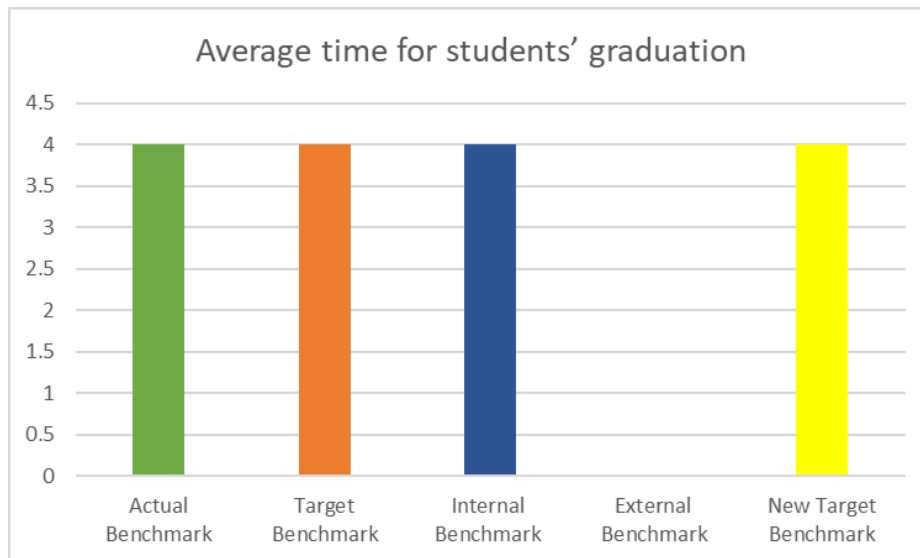


Figure 5: Average time for students' graduation.

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2-Analysis (strengths and recommendations): The actual benchmark of 4 semesters that is calculated by the average time (in semesters) spent by students to graduate from the program. Therefore the actual benchmark matches the target benchmark. It is the second year of the program, the benchmark should be measured at the graduation date. No external benchmark nor internal benchmark.

Strengths:

- Average time for students' graduation surveys are conducted regularly which allows for consistent evaluation of the graduation student from Data science Master.

Recommendations:

- The program must provide and motivate in the view of services as well as practical skill development to attract the students with high grades as planned in the strategic plan of the Information system department.

*Explanation:

No internal benchmark ;

Name of the internal benchmark provider: The measurement time of this KPI should be at the end of the final year of graduation. Therefore, the internal benchmark of this KPI available for this academic year.

1. How was the benchmark calculated?

Average time (in semesters) spent by students to graduate from the program.

**Explanation:

No external Benchmark

Table 6: KPI-PG-6: Rate of students dropping out of the program.

<p>NCAAA KPI Reference Number: KPI-PG-6: Rate of students dropping out of the program</p>
<p>Data Science Master Program KPI Reference Number: KPI-PG-6</p>

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Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
0%	0%	15.3%	NA	0%

1-KPI Analysis of Rate of students dropping out of the program

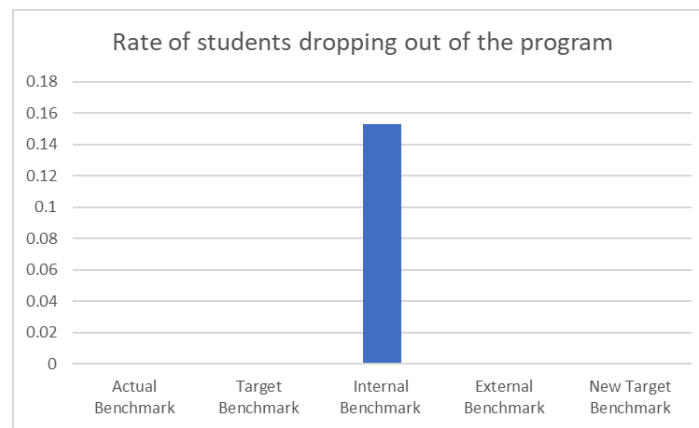


Figure 6: Rate of students dropping out of the program.

2- Analysis (strengths and recommendations): Referring to the table above, there are no cases of students dropping out of the program, aligning with the intended target benchmark. Notably, this performance surpasses the internal benchmark, with no external benchmark available for this year

Strengths:

- Rates of students dropping out of the program are conducted regularly and still achieved the target benchmark.
- No students dropped out of the program this semester.

Recommendations:

- Continue the same strategies of teaching and learning.

*Explanation:

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The internal benchmark provider is the program itself, utilizing its performance from the previous year as a reference. In the academic year 2020-2021, when the KPI was measured, there were 2 dropouts out of 13 students in the program.

1. How was the benchmark calculated?

Percentage of students who did not complete the program to the total number of students in the same cohort.

**Explanation:

No external Benchmark.

Table 7: KPI-PG-7: Graduates' employability.

NCAAA KPI Reference Number: KPI-PG-7: Graduates' employability				
Data Science Master Program KPI Reference Number: KPI-PG-7				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
73%	90%	73%	NA	90%

1-KPI Analysis of Graduates' employability

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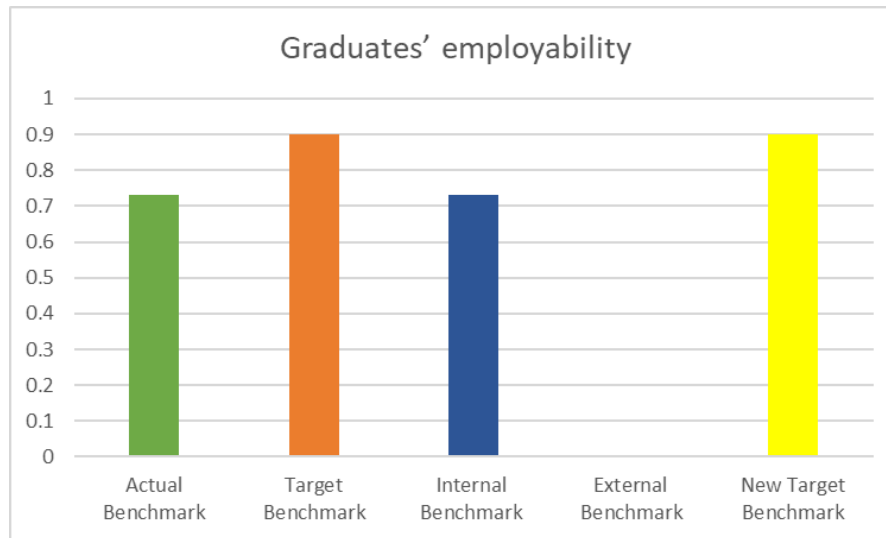


Figure 7: Graduates' employability.

2-Analysis (strengths and recommendations): Based on the table above, the actual benchmark is less than the target benchmark. No internal benchmark.

Strengths:

- Rate of graduate students' employability surveys are conducted regularly which allows for consistent evaluation of the graduation student from Data Science Master.

Recommendations:

- Continue the same strategies of teaching and learning.
- Focus should be given to the development of a graduate's abilities.

*Explanation:

Name of the internal benchmark provider; No internal benchmark. In the academic year 2022-2023, this KPI cannot be measured and the measurement time of this KPI should be one year after graduation time. Therefore, the internal benchmark of this KPI is not available for this academic year.

How was the benchmark calculated?

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The percentage of graduates from the program who within a year of graduation were employed to the total number of graduates in the same year.

**Explanation:

No external Benchmark

Table 8: KPI-PG-8: Employers' evaluation of the program graduates' competency.

NCAAA KPI Reference Number: KPI-PG-8: Employers' evaluation of the program graduates' competency				
Data Science Master Program KPI Reference Number: KPI-PG-8				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
4.91	3.75	4.9	NA	4.5

1-KPI Analysis of Employers' evaluation of the program graduates' competency

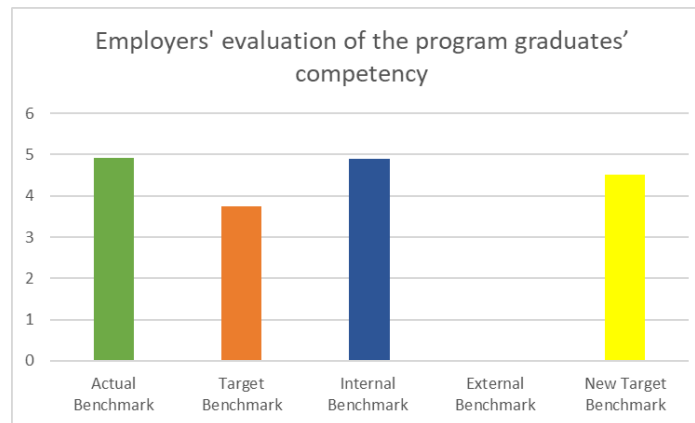


Figure 8: Employers' evaluation of the program graduates' competency.

2-Analysis (strengths and recommendations): According to the table, the current KPI surpasses the targeted benchmark and is roughly equivalent to the internal benchmark.

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This benchmark signifies the proficiency of our program graduates. Unfortunately, there is no external benchmark available for comparison.

Strengths:

- Our students have demonstrated professionalism in their careers.
- The proficiency of Data Science Master Students is regularly assessed through employers' evaluations, providing a continuous means for evaluating the quality of program graduates.

Recommendations:

- Teachers can inspire students, encouraging them to prepare for Ph.D. studies, whether within or outside the kingdom.
- Enhance the involvement of employers in the evaluation process of program graduates to identify areas for improvement in the educational process.
- It is advisable to consider national and international external benchmarks for comparing actual benchmarks with similar programs at both local and international levels.

*Explanation:

Name of the internal benchmark provider: The program has taken its own performance for the past year as an internal benchmark.

How was the benchmark calculated?

The average overall rating of employers for the competency of the program graduates on an all-point scale in an annual survey. Average of all question Survey of employers' opinion of male and female graduates

**Explanation:

No external Benchmark

Standard 4: STUDENTS

Table 9: KPI-PG-9: Students' satisfaction with the provided services.

<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>	 <p>جامعة الأمير سطاتم بن عبدالعزيز PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY</p>	<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطاتم بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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<p>NCAAA KPI Reference Number: KPI-PG-9: Students' satisfaction with the provided services</p>				
<p>Data Science Master Program KPI Reference Number: KPI-PG-9</p>				
<p>Actual Benchmark 2022-2023</p>	<p>Target Benchmark</p>	<p>Internal Benchmark 2020-2021</p>	<p>External Benchmark 2020-2021</p>	<p>New Target Benchmark</p>
<p>3.67</p>	<p>3.75</p>	<p>4</p>	<p>NA</p>	<p>4</p>

1-KPI Analysis of Students' satisfaction with the provided services

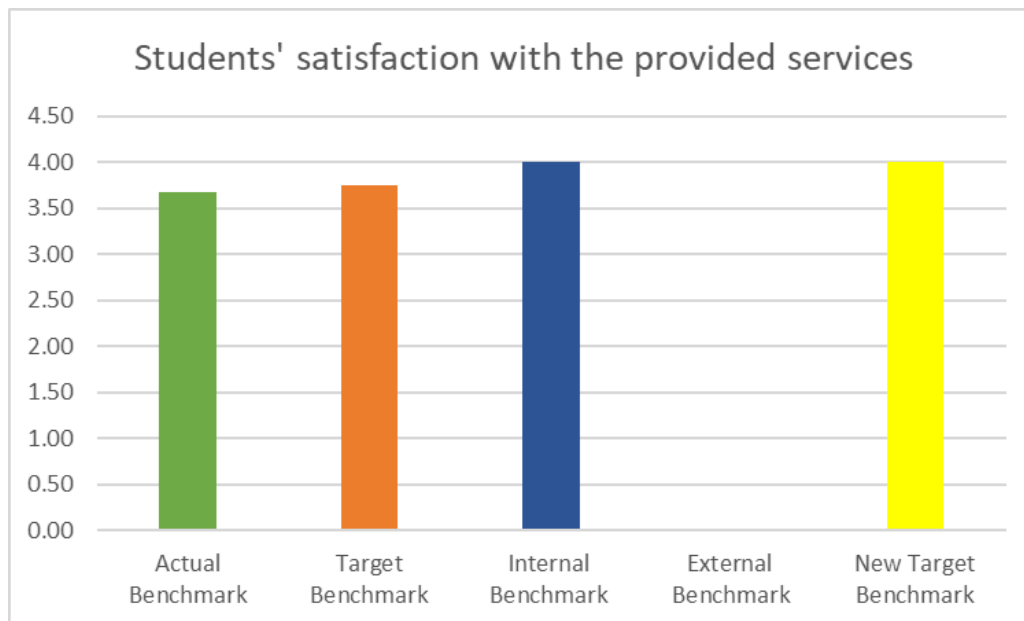


Figure 9: Students' satisfaction with the provided services.

2-Analysis (strengths and recommendations): The current KPI surpasses the target benchmark; however, the internal benchmark is not available for this academic year. There is no external benchmark for comparison.

Strengths:

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- The admission and registration processes are in accordance with the nature of the program.
- Active participation of the students in the student council.
- Relevant surveys are conducted regularly which allows for consistent evaluation of the facilities and equipment.

Recommendations:

- Establishing an Alumni association is recommended.
- Develop a suitable strategy through focused group discussions involving all relevant stakeholders to enhance the quality of facilities and equipment within the program.
- Introduce training courses for students on utilizing various digital platforms.

*Explanation:

The internal Benchmark is not available, since the program has taken its own performance for the past year as an internal benchmark. In the academic year 2020-2021, this KPI cannot be measured and the measurement rate of this KPI should be conducted from the final year in the program through the annual report (Student Program Evaluation Survey). Therefore, the internal benchmark of this KPI is not available for this academic year.

How was the benchmark calculated?

Average of students' satisfaction rate with the various services provided by the program (food, transportation, sport facilities, academic advising ...) on a five-point scale in an annual survey.

**Explanation:

No external Benchmark

Standard 5: FACULTY MEMBERS

Table 10: KPI-PG-10: Ratio of students to faculty members.

NCAAA KPI Reference Number: KPI-PG-10: Ratio of students to faculty members

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Data Science Master Program KPI Reference Number: KPI-PG-10				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
1:1	5:1	1:1	NA	5:1

1-KPI Analysis of Ratio of students to faculty members

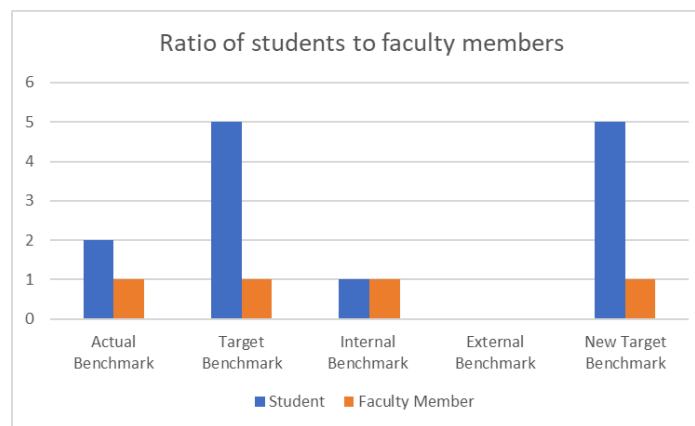


Figure 10: Ratio of students to faculty members.

2-Analysis (strengths and recommendations): Based on the table above the actual benchmark is less than the target benchmark. But it is noticeable that it exceeds the internal benchmark. No external benchmark.

Strength:

None

Recommendation:

- Increase the proportion of Associate and Full Professors in the Master of Data Science.

*Explanation:

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Name of the internal benchmark provider: The program has adopted its performance from the previous year as an internal benchmark. Utilizing the actual benchmark of the Data Science Master Program from the previous cycle (2020-2021) serves as a valuable internal measure for enhancing the program from one cycle to the next.

How was the benchmark calculated?

Ratio of the total number of students to the total number of full-time and full-time equivalent faculty members participating in the program.

**Explanation:

No external Benchmark

Table 11: KPI-PG-11: Percentage of faculty members' distribution based on academic ranking.

NCAA KPI Reference Number: KPI-PG-11: Percentage of faculty members' distribution based on academic ranking				
Data Science Master Program KPI Reference Number: KPI-PG-11				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
Prof: 0% Assoc.: 20% Assist: 80%	Prof: 22.9% Assoc.: 22.9% Assist: 54.1%	Prof: 0% Assoc.: 28.5% Assist: 71%	NA	Prof: 33.3% Assoc.: 33.3% Assist: 33.3%
Male: 60% Female: 40%	Male: 66.7% Female: 33.3%	Male: 71.4% Female: 28.5%		Male: 50% Female: 50%

1-KPI Analysis of Percentage of faculty members' distribution based on academic ranking

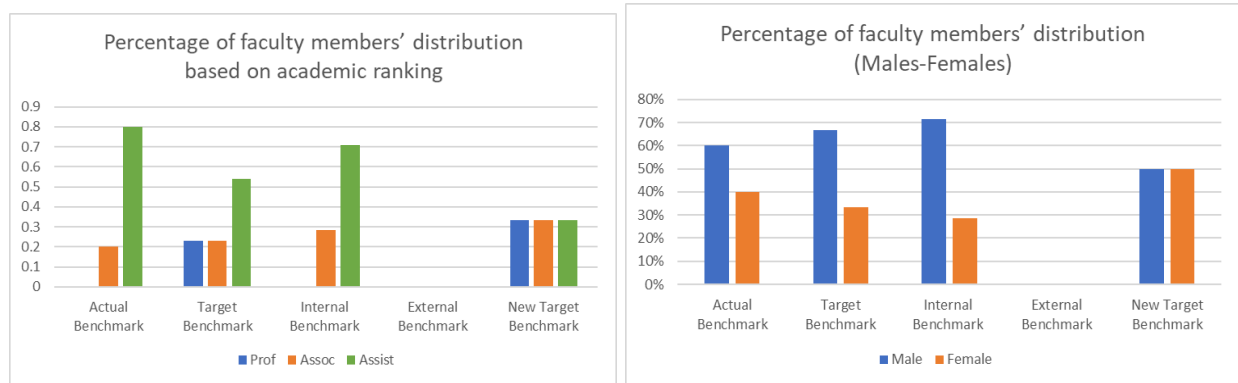


Figure 11: Percentage of faculty members' distribution based on academic ranking, Males-Females.

2-Analysis (strengths and recommendations): In terms of academic ranking, the current KPI surpasses both the target and internal benchmarks for the number of assistant professors. However, the number of associate professors falls short of both benchmarks. The KPI for professors lags behind both the internal and target benchmarks, and there is no external benchmark available.

Regarding the gender distribution (Males to Females), the KPI still falls behind both benchmarks in terms of the percentage of males to females

Strengths: None

Recommendations

- A significant portion of the teaching staff holding PhDs are currently in the Assistant Professor position within the Master of Data Science program. It is imperative to enhance the representation of Associate and Full Professors.
- To address this, consider recruiting Full and Associate Professors.
- Additionally, encourage faculty members to pursue higher education and support them in seeking promotions within the academic ranks.

*Explanation:

Name of the internal benchmark provider. Data Science master. The program has taken its own performance for the past year as an internal benchmark

How was the benchmark calculated?

<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>	 <p>جامعة الأمير سطام بن عبدالعزيز PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY</p>	<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطام بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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Percentage distribution of faculty members participating in the program based on academic ranking.

**Explanation:

No external Benchmark

Table 12: KPI-PG-12: Proportion of faculty members leaving the program.

<p>NCAAA KPI Reference Number: KPI-PG-12: Proportion of faculty members leaving the program</p>				
<p>Data Science Master Program KPI Reference Number: KPI-PG-12</p>				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
0%	0%	28.6%	NA	0%

1-KPI Analysis of Proportion of faculty members leaving the program

<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>	 <p>جامعة الأمير سطام بن عبدالعزيز PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY</p>	<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطام بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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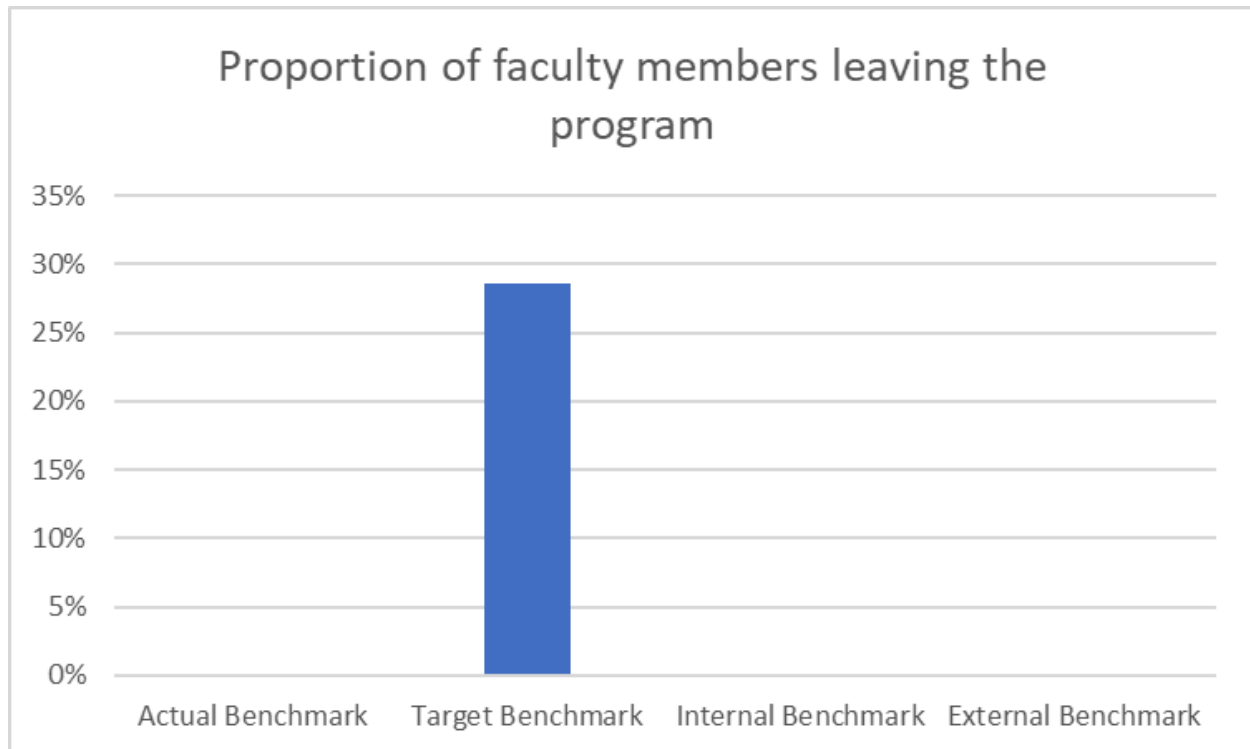


Figure 12: Proportion of faculty members leaving the program.

28.6% of faculty members left the master program of data science in the actual benchmark. No external benchmark.

Strengths:

None.

Recommendations:

- It is advisable to persist in gathering feedback from the teaching staff regarding their job satisfaction. This ongoing effort aims to address their concerns, fostering a sense of ownership among faculty members.

*Explanation:

Name of the internal benchmark provider. Data Science master. The program has taken its own performance for the past year as an internal benchmark

How was the benchmark calculated?

The ratio of faculty members departing from the program each year due to reasons other than age-related retirement, relative to the total number of faculty members.

**Explanation:

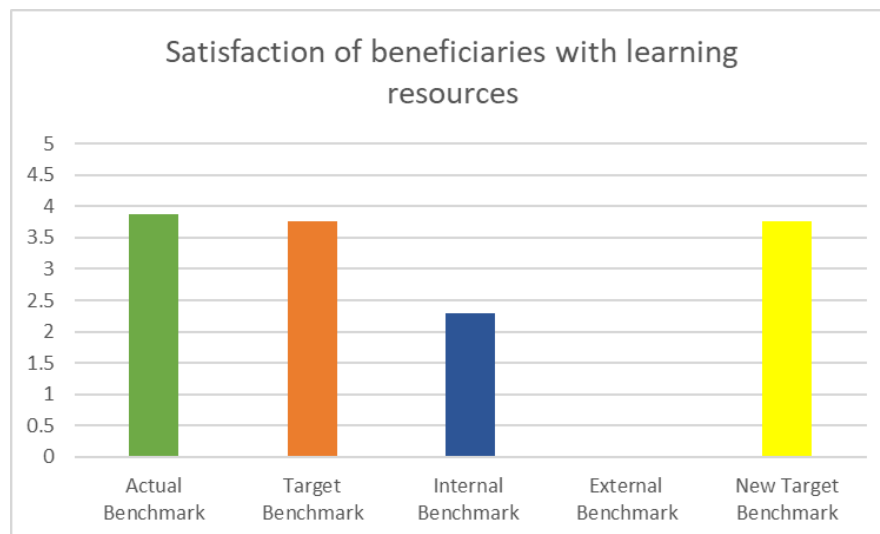
No external Benchmark

Standard 6: FACULTY MEMBERS

Table 13: KPI-PG-13: Satisfaction of beneficiaries with learning resources.

NCAAA KPI Reference Number: KPI-PG-13: Satisfaction of beneficiaries with learning resources				
Data Science Master Program KPI Reference Number: KPI-PG-13				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
3.88	3.75	2.3	NA	3.75

1-KPI Analysis of Satisfaction of beneficiaries with learning resources



<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>	 <p>جامعة الأمير سطاتم بن عبدالعزيز PRINCESS SATTAM BIN ABDULAZIZ UNIVERSITY</p>	<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطاتم بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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Figure 13: Satisfaction of beneficiaries with learning resources.

2-Analysis (strengths and recommendations): It can be observed from the table above that the current benchmark is generally exceeding the target benchmark.

Strengths: None

Recommendations:

- Increase the availability of resources, equipment for the research.
- Building cooperative relations between the library and other academic libraries.
- An appropriate strategy needs to be developed through focused group discussions with all the relevant stakeholders to improve the quality of digital library resources. In particular, the website needs to improve, as this aspect received a very low ranking.

*Explanation:

Name of the internal benchmark provider: The program has taken its own performance for the past year as an internal benchmark. In the academic year 2020-2021, this KPI was not available.

How was the benchmark calculated?

Average of beneficiaries' satisfaction rate with learning resources on four points in the "**Graduate opinion**" annual survey in terms of:

- a. Their adequacy and diversity (references, journals, databases... etc.)
- b. The support services provided for their utilization.

**Explanation:

No external Benchmark

Table 14: KPI-PG-14: Satisfaction of beneficiaries with research facilities and equipment.

NCAAA KPI Reference Number: KPI-PG-14: Satisfaction of beneficiaries with research facilities and equipment

Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)	 جامعة الأمير سطاتم بن عبدالعزيز PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY	المملكة العربية السعودية وزارة التعليم جامعة الأمير سطاتم بن عبد العزيز كلية هندسة وعلوم الحاسب (056)
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Data Science Master Program KPI Reference Number: KPI-PG-14				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
3.84	3.75	3	NA	4

1-KPI Analysis of Satisfaction of beneficiaries with research facilities and equipment

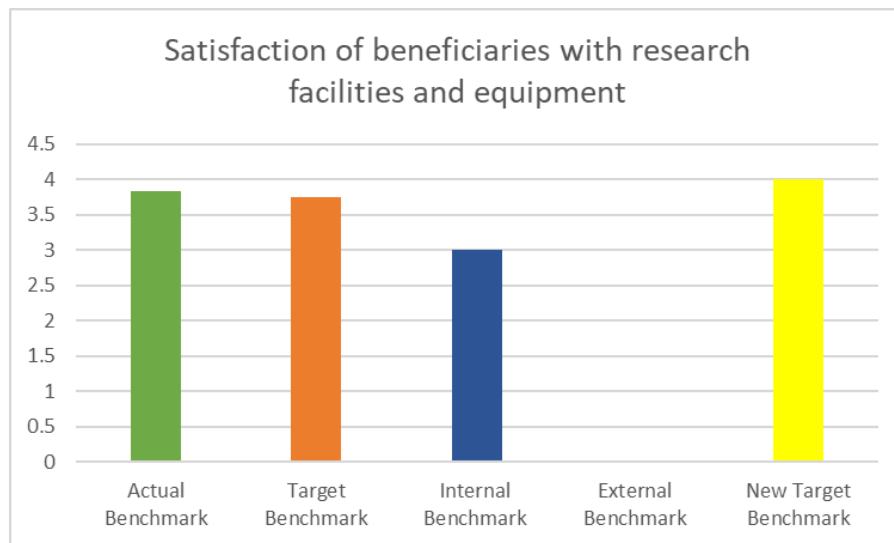


Figure 14: Satisfaction of beneficiaries with research facilities and equipment.

2-Analysis (strengths and recommendations): The table above suggests that the current benchmark slightly surpasses the target benchmark and significantly exceeds the internal benchmarks.

Strengths: None

Recommendations:

- Acquire new research labs.
- Further increasing the availability of resources, equipment .

*Explanation:

<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>	 <p>جامعة الأمير سطام بن عبدالعزيز PRINCESS SATTAM BIN ABDULAZIZ UNIVERSITY</p>	<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطام بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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Name of the internal benchmark provider: The Data Science program has taken its own performance for the past year as an internal benchmark. Using the data Science master program’s own actual benchmark from the previous cycle (2020-2021) provides a good internal measure for program improvement from one cycle to the next.

1. How was the benchmark calculated?

Average of beneficiaries’ satisfaction rate with research facilities and equipment (depending on the nature of the program) on a four points in the “**Graduate opinion**” annual survey.

**Explanation:

No external Benchmark

Standard 7: RESEARCH AND PROJECTS Table 15: KPI-PG-15: Percentage of publications of faculty members.

NCAAA KPI Reference Number: KPI-PG-15: Percentage of publications of faculty members				
Data Science Master Program KPI Reference Number: KPI-PG-15				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
100%	75%	100%	NA	95%

1-KPI Analysis of Percentage of publications of faculty members

<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>	 <p>جامعة الأمير سطام بن عبدالعزيز PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY</p>	<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطام بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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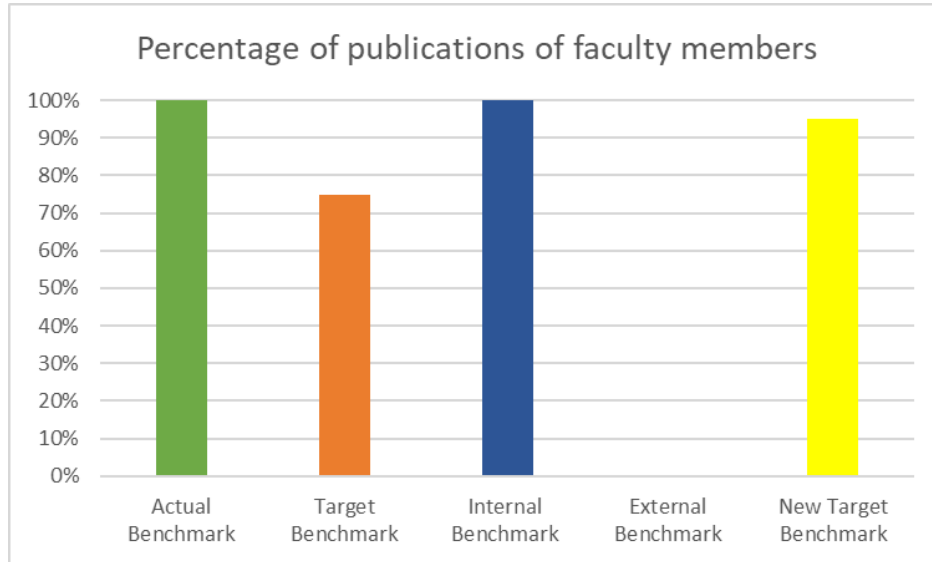


Figure 15: Percentage of publications of faculty members.

2-Analysis (strengths and recommendations): The data showed that the number of publications (100%) is more than both the internal benchmark and target benchmark.

Strengths:

- Most of the counted papers (all refereed) were published in ISI indexed journals
- The teaching staff is actively involved in research although they are busy with other tasks
- The department encouraged the staff to write and publish more publications.

-Recommendation:

- Promoting the establishment of research groups within the department would enhance a robust culture of collaboration, thereby positively impacting the KPI.
- Additional endeavors should be directed towards achieving a higher proportion of publications in ISI indexed journals.
- The department should also engage in more active dissemination of the positive outcomes achieved by Faculty Members.

*Explanation:

<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>	 <p>جامعة الأمير سطام بن عبدالعزيز PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY</p>	<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطام بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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Name of the internal benchmark provider. Data Science master. The program has taken its own performance for the past year as an internal benchmark

How was the benchmark calculated?

Percentage of faculty members participating in the program with at least one research publication during the year to total faculty members in the program.

**Explanation:

No external Benchmark

Table 16: KPI-PG-16: Rate of published research per faculty member.

NCAAA KPI Reference Number: KPI-PG-16: Rate of published research per faculty member				
Data Science Master Program KPI Reference Number: KPI-PG-16				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
5:1	2:1	1.4:1	NA	3:1

1-KPI Analysis of Rate of published research per faculty member

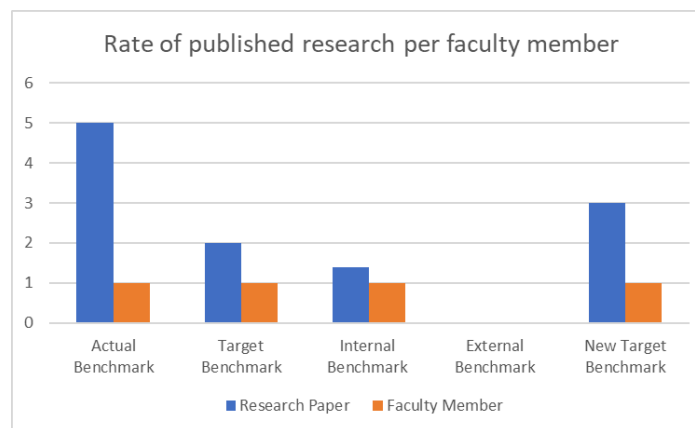


Figure 16: Rate of published research per faculty member.

<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>	 جامعة الأمير سطاتم بن عبدالعزيز PRINCESS SATTAM BIN ABDULAZIZ UNIVERSITY	<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطاتم بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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2-Analysis (strengths and recommendations): The data shows that the rate of publications is better than both the target and internal benchmarks.

- Strengths:

- The publishing rate is higher than the target; despite the members being very active in their research activities.
- Most of the counted papers (all refereed) were published in ISI indexed journals

- Recommendations:

- The department should enhance the active dissemination of positive outcomes stemming from the Research Performance Evaluation of program staff, emphasizing its impact on their promotional activities.

*Explanation:

Name of the internal benchmark provider. Data Science master. The program has taken its own performance for the past year as an internal benchmark.

How was the benchmark calculated?

The average number of refereed and/or published research per each faculty member participating in the program during the year (total number of refereed and/or published research to the total number of faculty members during the year).

**Explanation:

No external Benchmark

Table 17: KPI-PG-17: Citations rate in refereed journals per faculty member.

NCAAA KPI Reference Number: KPI-PG-17: Citations rate in refereed journals per faculty member				
Data Science Master Program KPI Reference Number: KPI-PG-17				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
20:1	2:1	19.5:1	NA	5:1

1-KPI Analysis of Citations rate in refereed journals per faculty member

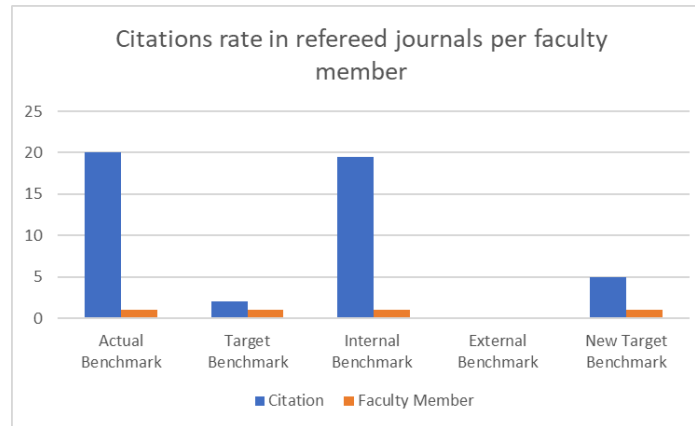


Figure 17: Citations rate in refereed journals per faculty member.

2-Analysis (strengths and recommendations): The data indicates that the citation rate exceeds the target benchmark and is slightly above the internal benchmark.

Strengths:

- Most of the papers were cited in ISI indexed journals.
- The faculties in the master program of data science have published many papers, therefore, they earned many citations.

- Recommendations:

- The department should actively promote the positive outcomes of the Research Performance Evaluation of Faculty Members and highlight its impact on their promotional activities.

*Explanation:

Name of the internal benchmark provider. Data Science master. The program has taken its own performance for the past year as an internal benchmark.

How was the benchmark calculated?

<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>	 جامعة الأمير سطاتم بن عبدالعزيز PRINCESS SATTAM BIN ABDULAZIZ UNIVERSITY	<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطاتم بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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The average number of citations in refereed journals from published research (total number of citations in refereed journals from published research for faculty members to the total published research)

**Explanation: No external Benchmark

Table 18: KPI-PG-18: Percentage of students' publication.

NCAA KPI Reference Number: KPI-PG-18: Percentage of students' publication				
Data Science Master Program KPI Reference Number: KPI-PG-18				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
45.4	10%	45.4%	NA	50%

1-KPI Analysis of Percentage of students' publication

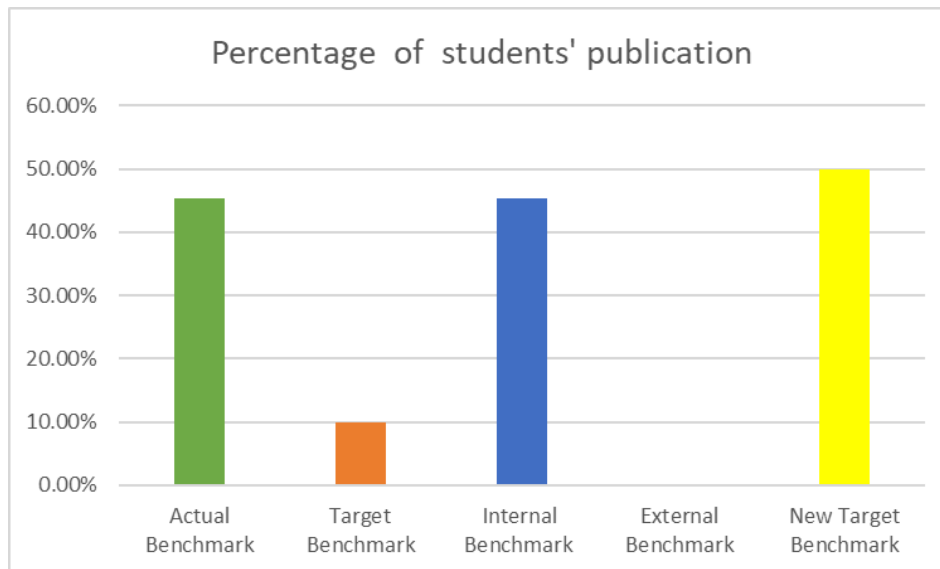


Figure 18: Percentage of students' publication.

<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>	 <p>جامعة الأمير سطام بن عبدالعزيز PRINCESS SATTAM BIN ABDULAZIZ UNIVERSITY</p>	<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطام بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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2-Analysis (strengths and recommendations): The data shows that the percentage of students' publication is more than the target benchmark, because students have started their capstone projects, written, and published their results in the indexed conferences and journals. No internal and external benchmark is available.

- Strengths:

- Most of the papers were cited in ISI indexed journals.
- The students with their faculty's members in the master program of data science have published many papers in ISI indexed journals and conferences.

- Recommendations:

- The department must disseminate more actively the positive outcomes of Students and Faculty Members' Research Performance Evaluation and its impact on their promotional activities

- Recommendations: None

*Explanation:

Name of the internal benchmark provider. Data Science master. The program has taken its own performance for the past year as an internal benchmark.

How was the benchmark calculated?

Percentage of students who:

- a. published their research in refereed journals.
- b. presented papers in conferences to the total number of students in the program during the year.

**Explanation:

No external Benchmark

Table 19: KPI-PG-19: Number of patents, innovative products, and awards of excellence.

NCAA KPI Reference Number: KPI-PG-19: Number of patents, innovative products, and awards of excellence

<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>	 جامعة الأمير سطاتم بن عبدالعزيز PRINCESS SATTAM BIN ABDULAZIZ UNIVERSITY	<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطاتم بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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Data Science Master Program KPI Reference Number: KPI-PG-19				
Actual Benchmark 2022-2023	Target Benchmark	Internal Benchmark 2020-2021	External Benchmark 2020-2021	New Target Benchmark
1	1	1	NA	1

1-KPI Analysis of Number of patents, innovative products, and awards of excellence

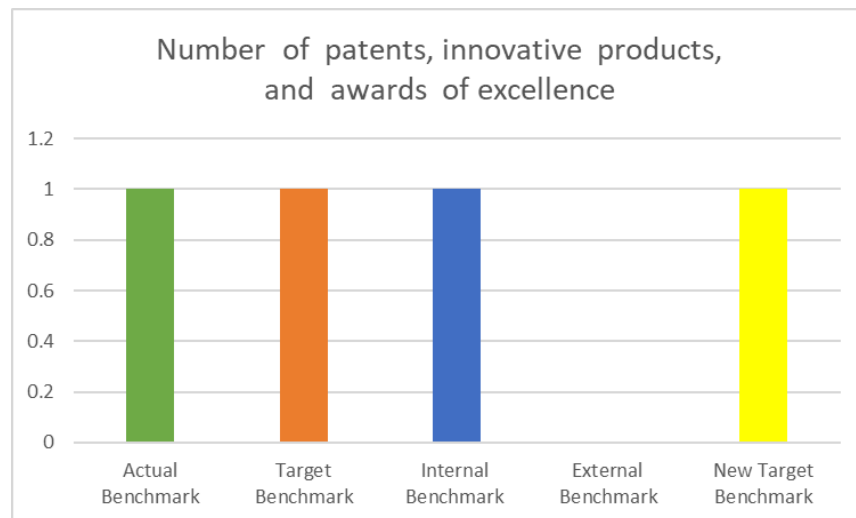


Figure 19: Number of patents, innovative products, and awards of excellence.

2-Analysis (strengths and recommendations): The data shows that there is one award of excellence given by Data Science Master Students in the current KPI.

No external benchmark.

Strengths:

- Students participated in a competition.

Recommendations:

- The department has to encourage the student and teaching staff to have patents, innovative products, and awards of excellence.

<p>Kingdom of Saudi Arabia Ministry of Education Princess Sattam bin Abdulaziz University College of Computer Engineering and Sciences (056)</p>		<p>المملكة العربية السعودية وزارة التعليم جامعة الأمير سطام بن عبد العزيز كلية هندسة وعلوم الحاسب (056)</p>
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*Explanation:

Name of the internal benchmark provider. Data Science master. The program has taken its own performance for the past year as an internal benchmark.

How was the benchmark calculated?

Number of:

- a. Patents and innovative products
- b. National and international excellence awards obtained annually by the students and staff of the program.

**Explanation: No external Benchmark

- The department