Performance

20|20 KSU – QPMS
BENCHMARKING SYSTEM
(2ND EDITION, JUNE 2023)

20|20 KSU-QPMS

KING SAUD UNIVERSITY

QUALITY PERFORMANCE MANAGEMENT SYSTEM

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Foreword

The KSU journey and new chapters have been guided by its commitment to continuous improvements, innovations, renewals, and recommitment. They are underpinned by the continued strengthening of its education, social and cultural foundations through its ever-evolving IQA (Internal Quality Assurance) System. We are pleased and proud to say that we have used the KSA Vision 2030, KSU Vision 2030, the ETEC-NCAAA, and national aspirations to strive beyond meeting requirements to excel through Performance Excellence, which has been and will always be the beacon of KSU's "Towards Excellence."

In KSU's ever-evolving IQA (Internal Quality Assurance) System, we are proud to introduce our PIQ (Planning-Information-Quality) Troika pillars. They underscore KSU's holistic approach to "Performance Excellence Management." In these aspects, the IQA journey toward accreditation has been a very challenging but not hopeless nor inhibiting

exercise. On the contrary, these "Learning Experiences" have challenged KSU to higher heights on its "Towards Excellence" journey, one of which is the pervasive Benchmarks and its system.

Like all other institutions, Benchmarking has been an inherent issue in providing comparatives and benchmarks at the national and international levels. But in 2023, KSU upgraded its 2013 Internal Benchmarking System into a complete-fledged 20|20 Benchmarking System. This synopsis aims to provide a guidebook on the essentials and fundamentals of KSU Benchmarks and its Benchmarking System.

We hope this 20|20 KSU-QPMS Benchmarking System Synopsis will provide a snapshot of the mechanisms and rubrics for ease of understanding and practice perusals.

Executive Summary

The never-ending journey for continuous improvements in quality and accreditation through Benchmarking has been evolving since 2010 with the latest update of 2023 20|20 KSU-QPMS Benchmarking System (2nd Edition, June 2023). Benchmarking is an elusive holy grail that all accreditation agencies request. While benchmarking is an internationally accepted circumstance, its practices have been debatable. Most of the debatable issues, like the uniqueness of an institution, college, or program, are specific to its (1) mission & goals and (2) resources, capacities, capabilities, and competencies. In addition, quality practices and performance metrics measurements, especially perception studies, are difficult to compare or benchmark due to their constructs measures that are highly diverse. But regardless of all these, KSU has not shrunk from its challenge to develop the 20|20 KSU-QPMS Benchmarking System (2nd Edition, June 2023). The main components covered are:

I.   Rationale of Benchmarking System

II.   20|20 KSU-QPMS Benchmarking System

III.   Introduction to Internal Benchmarking

IV.   Internal Benchmarking approach

V.   Types of Analysis and internal benchmarking

VI.   Detailed samples and discussion of the five types of analysis and internal benchmarks

We hope this synopsis will provide a better and more comprehensive grounding of the essential WHATs and HOWs of the 20|20 KSU-QPMS Benchmarking approach, the rationale, and the types of analyses encapsulated here.

Once again, we thank everyone for all the continuous improvements and innovative efforts on the "Together towards Excellence" journey in many more fruitful and successful years to come. With your cooperation and support, KSU can and will strengthen and sustain its strives towards quality-planning-information excellence of the KSU 2030 "Towards Excellence."

Thank you.

Deanship Of Development and Quality

King Saud University

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I. Rationale of Benchmarking System

From 2013 to 2016, KSU has been in the process of providing a set of "appropriate" benchmarks for its IQA (Internal Quality Assurance" Process, with the first system initiated in 2013. It has proved to be a challenging and arduous process for the following reasons:

a. **ETEC-NCAAA** – The NCAAA to the ETEC-NCAAA Standards and Criteria requirements and appending KPIs have continuously evolved, with five significant changes in 2010, 2015, 2017, 2019, and December 2022. It has led to frequent and drastic changes to KSA's institutional and programmatic requirements from 2010 to 2023, especially the IQA systems that must be continuously modified and updated to meet the newer requirements.

b. **National Benchmarking** – While there has been a national aspiration to have a national database of all NCAAA KPIs and benchmarks, this has not been realized due to these frequent changes. In addition, a variety of public and private institutions have different natures, types, financial aspects & sizes of institutions, diverse missions, goals and objectives, and tactical & operational focus. All these have affected the different types of surveys and construct measures and KPIs, as the constructs are specific and unique to each program, college, or Institution. It makes it difficult to get an exact and direct one-to-one comparison. As such, KSU has since focused on the primary aggregate's overall dimensional measure rather than the sub- components when comparative universities are available.

c. **International Benchmarking** – When the national benchmarking is raised to international benchmarking, international benchmarking is still a highly envisaged aspiration but with greater complexity. The constraints are similar to national levels, but getting and using these benchmarks are more complex and trying as they are not in public domains. Most institutions highly protect their strategic, tactical, and operational performance metrics. Most institutions do not publicize their actual performance metrics nor avail them to others for confidentiality and competitive rationales. As such, institutions need to tread lightly and selectively to get international benchmarks. These are compounded by common issues faced by all in that the international benchmarks are (a) typically from more matured and advanced institutional or national systems, (b)

typically their mission, goals, and objectives, and appending IQA management are highly diverse and more future or focused high-level orientations as they had attained and passed the introductory or intermediate aspirations, (c) their performance metrics are more attuned to these higher and more matured system objectives and aspirations, unlike those of the national requirements. Different tactics and diplomacies must be devised to derive diverse international benchmarks from various sources. It is the rationale whereby KSU uses a diverse and highly customized set of national datasets to lead ranking universities and benchmarked universities used in strategic planning and other categories and in-depth datasets executed by leading universities, especially on highly developed satisfaction surveys based on in-depth categorical needs.

II.   20|20 KSU-QPMS Benchmarking System

Though there are constraints in developing a Benchmarking System or in developing and using national or international guiding comparatives of performance, regardless of constraints in benchmark development and usage, KSU has not used these as obstacles but as guiding forces to develop its benchmarking system. As such, KSU has set up its KSU-QPMS Benchmarking System © 2023, that was evolved from its 2013 approach:

a. ***KSU Internal Benchmarking*** – This began with the 2013 KSU Internal Benchmarking System, updated to the 2023 KSU Benchmarking System (Second Edition, June 2023). It details the KSU framework of applying the Data Analytics approach of drill-ups and drill-downs to compare the performance of courses within a program, programs within a college, and all colleges within KSU. The primary use of data analytics to guide informed decision-making and the use of BI (Business Intelligence) is the main thrust of this system.

b. ***National Benchmarking*** – As a national database of benchmarks is lacking, KSU uses comparative public universities as its main benchmarks. In 2023, three comparative universities were selected. Imam Abdulrahman bin Saud University, King Abdulaziz University, and Imam University are the main comparison benchmarks. KSU is not provided with their actual benchmarks but on select or actual KPIs over some time.

c. ***International Benchmarking*** – Due to the main constraints above, international benchmarks are selected based on availability. They are more attuned to national datasets and leading universities or universities with highly formulated surveys or

publicized datasets online. Individual universities that are similarly ranked as KSU are selected based on availability and similarity in institutional profiling or KPIs definitions. The datasets benchmarks used in 2023 are:

Selected International Datasets	Rationale
a. IPEDS NCES (National Centre for Education Statistics) of US 2021 common datasets b. NSS (National Student Survey) Office for Students UK 2022 c. OECD 2019 Benchmarking Higher Education System Performance d. MCU (Ministry of Colleges & Universities) Ontario dataset of 21 institutions	These national datasets are mandated by national agencies, thereby availing a larger population size rather than a sample size. The IPEDS NCES needs to be selected, of which 11 similar but ranking universities were selected, but the common datasets are averaged out. NSS, MU, and OECD datasets are taken "as is."
e. Ohio State University f. University of Manchester g. National University of Singapore h. Yale University	They are KSU select universities used for benchmarking in updating the KSU 2030 Strategic Plan (2nd Edition, 2021). But most of them do not publicize performance metrics other than OISU, but these are high-level strategic metrics based on their mission and goals.
e. CUHK (City University of Hong Kong) 2021 data f. Curtin University 2020 dataset, providing Average ATN Universities & Sector Average g. City, University of London	These are ranking universities with very diverse and categorical datasets that can be used for drill downs to undergraduate and postgraduate performance (CUHK) and generic quality assurance metrics (Curtin & City)
e. University of San Francisco HEDS Student Satisfaction Survey 2021 f. SDSU (South Dakota State University) 2018 data g. Youngstown State University (YSU) Noel Levitz Student Satisfaction Survey	These universities were selected because they have diverse and in-depth perception surveys of student satisfaction.

2023 Availability of Benchmark

As of 3 March 2023, there are 29/43 KSU-QPMS KPIs with selected international benchmarks and 14/43 with no identifiable international benchmarks. Of the 14/43, KPIs 4 are "Not applicable" as they depend on the diverse institution missions, goals, and objectives that are unique and specific to the Institution. The 10/14 classified as "TBA" are still in the process of identification and selection, which is more specific to the KSA national requirements of ETEC- NCAAA.

STANDARD 1 MISSION, VISION, AND STRATEGIC PLANNING			
KSU-QPMS KPIs	**2021/2022**	**Past**	**Source**
QPMSN-1-01 (I; UG; PG) Percentage of achieved indicators of the Institution's strategic plan objectives	Not Applicable		Not appropriate to be sourced or compared as each Institution has a unique and specific mission, goals, and objectives that are diverse in nature.
QPMSQ-1-02 (I; UG; PG) Stakeholders' awareness ratings of the Mission Statement and Objectives	Not Applicable		Not appropriate to be sourced or compared as each Institution has a unique and specific mission, goals, and objectives that are diverse in nature.
STANDARD 2 GOVERNANCE, LEADERSHIP, AND MANAGEMENT			
QPMSN-2-03 (I; College) Proportion of accredited programs			
QPMSQ-2-04 (I; UG; PG) Stakeholder evaluation of the Policy Handbook, including administrative flow chart and job responsibilities	Not Applicable		Not appropriate to be sourced or compared as each Institution has unique and specific manuals, handbooks, organizational structuring, and job responsibilities based on diverse missions, goals, and objectives.
QPMSQ-2-05 (I; UG; PG) Evaluation of Organization Climate		4.00	SDSU (South Dakota State University) 2018 data. They had two components of the Campus Climate Assessment (1) work environment – 5.77 & (2) overall perceptions – 5.45. Converted to a 5.00-point scale.
QPMSQ-2-06 (I; UG; PG) Evaluation of Management and Administration overall performance	3.50		NSS (National Student Survey) Office for Students UK 2022. % is converted to a 5.00-point scale. Average of 1/9 components of the survey.
STANDARD 3 TEACHING AND LEARNING			
QPMSN-3-07 (I; UG; PG) Students' overall evaluation of the quality of their learning experiences for UP/PG /Institution	3.72		NSS (National Student Survey) Office for Students UK 2022. % is converted to a 5.00-point scale. Average of 7/9 components of the survey.
QPMSN-3-08 (I; UG; PG) Students' overall rating on the quality of their courses for UG/PG/Institution	3.80		NSS (National Student Survey) Office for Students UK 2022. % is converted to a 5.00-point scale. Average of 3/9 components of the survey.
QPMSN-3-09 (I; UG; PG) Retention Rate		92.45%	*IPEDS NCES* (National Centre for Education Statistics) of US 2021 common datasets – an average of 11 selected universities *Curtin University* 2021 dataset (88.0%) and Australian Universities Average 84.0%
QPMSN-3-10 (I; UG; PG) Proportion of postgraduates who, within a year of graduation, were employed to the total number of graduates in the same year		PG 92.10 % UG 92.40 %	CUHK (City University of Hong Kong) 2021 data.

QPMSN-3-11 Graduation rate for Undergraduate and Postgraduate Students in the specified period (I; UG; PG)		UG 4-years (0.68) PG Research (# 348)	IPEDS NCES (National Centre for Education Statistics) of US 2021 common datasets – an average of 11 selected universities for UG 4Y (0.68); 6Y (0.85); 8Y (0.86) Curtin University 2020 dataset for PG (348), ATN (297) & Sector (209)
QPMSN-PG-3-12 PG (PG) Students' evaluation of the quality of scientific supervision		4.18	University of San Francisco HEDS Student Satisfaction Survey 2021 data. 3/15 components of Quality of Academic Experience
QPMS-PG-3-13 (PG) Average time for PG students' graduation	TBA		In the process of sourcing
QPMSN-3-14 (I; UG; PG) Rate of students dropping out of the UG/PG/I programs		0.14	IPEDS NCES (National Centre for Education Statistics) of US 2021 common datasets of 1 minus 8Y (0.86) UG Graduation Rate = 0.14
QPMSN-3-15 (I; UG; PG) Students' performance in the professional and/or national exams	TBA		In the process of sourcing
QPMSN-3-16 (I; UG; PG) Average number of students in the class	21		Youngstown State University (YSU) Noel Levitz Student Satisfaction Survey
QPMSN-3-17 (I; UG; PG) Satisfaction of beneficiaries with learning resources	4.05		NSS (National Student Survey) Office for Students UK 2022. % is converted to a 5.00-point scale. Average of 1/9 components of the survey.
QPMSQ-3-18 (I; UG; PG) Students' competency score index as per NQF	Not Applicable		Unique to KSU
STANDARD 4 STUDENTS			
QPMSN-4-19 (I; UG; PG) Employers' evaluation of the UG/PG/I program graduates' proficiency		4.44	MCU (Ministry of Colleges & Universities) Ontario data of 21 institutions is 88.9% converted to 5-point scale.
QPMSN-4-20 (I; UG; PG) Annual expenditure rate per student		12,778 USD	IPEDS NCES (National Centre for Education Statistics) of US 2021 common datasets of core expenses for FTE enrolment
QPMSN-4-21 (I; UG; PG) Students' satisfaction with the offered services		3.81	University of San Francisco HEDS Student Satisfaction Survey 2021 dataset of 9/21 components ofquality of Campus Services & Facilities
STANDARD 5 FACULTY AND STAFF			
QPMSN-5-22 (I; UG; PG) Ratio of students to teaching staff		16:1	OECD 2019 Benchmarking Higher Education System Performance: Average of OECD countries 2016 data
QPMS-5-23 (I; UG; PG) Proportion of faculty members with doctoral qualifications	TBA		In the process of sourcing
QPMSN-5-24 (I; UG; PG) Percentage of teaching for UG/PG/Institution Staff distribution based on (a) academic ranking; (b) Gender		48.76	OECD 2019 Benchmarking Higher Education System Performance Top Quartile (48.76); Median (44.45); and Lower Quartile (41.59) 2016 dataset Curtin University 2021 dataset 26%; ATN 33.6% & Sector 30.8%
QPMS-5-25 (I; UG; PG) Proportion of teaching staff leaving the Institution/UG/PG		5.37%	SDSU (South Dakota State University) 2018 data. Of faculty voluntary turnover

QPMSQ-5-26 (I; UG; PG) Budget per head for full-time faculty members and teaching staffs' development in the country and abroad in proportion to the total number of full-time faculty members (SAR per capita and level achieved)	TBA		In the process of sourcing
QPMSQ-5-27 (I; UG; PG) Proportion of teaching staff participating in professional development activities during the past year	TBA		In the process of sourcing
QPMSQ-5-28 (I; UG; PG) Percentage of full-time supporting staff who were developed in professional knowledge and skills in the country and abroad	TBA		In the process of sourcing
STANDARD 6 INSTITUTIONAL RESOURCES			
QPMSN-6-29 (I) Percentage of self-income of the Institution		183,699 USD	IPEDS NCES (National Centre for Education Statistics) of US 2021 common datasets of core revenues per FTE of 7 sources: (1) inclusive of MIT of 11 universities = 229,908; (2) excluding MIT Top average is 183,699 & Low average is 43,211
QPMSN-6-30 (I; UG; PG) Satisfaction of beneficiaries with technical services		3.86	University of San Francisco HEDS Student Satisfaction Survey 2021 dataset of 14/21 components of Quality of Campus Services & Facilities
QPMSN-6-31 (I; UG; PG) Evaluation of facilities and environment supporting research		4.08	University of San Francisco HEDS Student Satisfaction Survey 2021 dataset of 4/15 components of Quality of Academic Experience
QPMSQ-I-6-32 (I) University revenues generated from providing academic and professional services		2,081.3 HKD	CUHK (City University of Hong Kong) 2021 data. FY 2020/2021 (2,081.3 HKD)
QPMSQ-I-6-33 (I) Evaluation of risk management practices as implemented	TBA		In the process of sourcing
STANDARD 7 RESEARCH AND INNOVATION			
QPMSN-7-34 (I; UG; PG) Percentage of publications of faculty members		53%	City, University of London proportion of total academic staff producing 3*/4* outputs for 2018/2019 dataset
QPMSN-7-35 (I; UG; PG) Rate of published research per faculty member		5.3	*Curtin University* 2020 dataset, Average ATN Universities (3.7) & Sector Average (3.0)
QPMS-E-7-36 (I; UG; PG) Citations rate in refereed journals per faculty member		21.78	*CUHK* (City University of Hong Kong) 2021 data. 21.78 citations per paper
QPMSN-7-37 (I; UG; PG) Percentage of students' publications		UG 2,413 PG 7,431	*CUHK* (City University of Hong Kong for 2018/19 to 2020/21g) 2021 data. UG 2,413 (including 317 in journals); PG 7,431 (journals 4.151; proceedings 2.421; and online newspaper & magazines 859)

QPMSN-7-38 (I; UG; PG) Number of patents, innovations, and awards of excellence		Separated by types	***SDSU*** (South Dakota State University) 2018 data. # of patents = 7; # of Licenses =7 # of inventions 20, and 3 of start-ups 3. Overall # of Business & Industry Partnerships = 671 ***CUHK*** (City University of Hong Kong) 2021 data. FY 2020/2021 (1) Patent = applied 386 & attained 226; (2) Licenses for research outputs 80
QPMSN-7-39 (I) Proportion of the budget is dedicated to research		45.6 million USD	***SDSU*** (South Dakota State University) 2018 data.
QPMSN-7-40 (I) Proportion of external funding for research		81 million HKD	***CUHK*** (City University of Hong Kong) 2021 data. FY 2020/2021
STANDARD 8 COMMUNITY AND PARTNERSHIP			
QPMSN-8-41 (I; UG; PG) Satisfaction of beneficiaries with the community services	TBA		In the process of sourcing
QPMSN-8-42 (I; UG; PG) Rate of community programs and initiatives	TBA		In the process of sourcing
QPMSQ-8-43 (I; UG; PG) Proportion of full-time teaching and other staff actively engaged in community service activities	TBA		In the process of sourcing

III. Introduction to Internal Benchmarking

The KSU–QPMS (King Saud University Quality and Performance Management System), defined in the KSU–QPMS Handbooks 1 and 2 (5th Edition, June 2023), has two main sets of Process Criteria and Results Criteria. The assessment system is designed based on a performance score of 1000 points. This assessment and scoring system is based on the internationally accepted performance excellence system of MBNQA (Malcolm Baldrige National Quality Award). The audit and assessment of the 11 Performance Criteria and their Process Criteria uses the ADLI (Approach, Deployment, Learning, and Integration). The Results Criteria consist of qualitative and quantitative Key Performance Indicators, defined by the Institution. Some of which are determined by the college or program are assessed using the LeTCI (Level, Trend, Comparison, and Integration) approach.

Aims of the 20|20 KSU-QPMS Internal Benchmarking System

The intentions of the KSU-IQA (Internal Quality Assurance) system are aimed at the followings:

1. To provide quality assurance of the Institution, college, and programs of its education offers and services based on its KSU 2030 "Towards Excellence," whereby,

2. To provide such quality assurance through an internal audit and assessment system as defined in the 20|20 KSU–QPMS Handbooks 1 and 2 (5th Edition, June 2023), whereby,

3. To provide an objective audit assessment through NCAAA compliant Performance Criteria and the internationally benchmarked performance MBNQA performance scoring of its Processes and Results Criteria based on a 1000 points system.

The use of the 1000 points performance scoring system and the Results Criteria of its 56 KPIs (additional from the KSU-QPMS 43 Key Performance Indicators) are the basis of the internal benchmarking system aimed at:

1. Provide an objective performance scoring of its process and results criteria which can be used as internal benchmarks. It is used to compare the performance of the Colleges in the Institution or the programs within the college.

2. Provide an objective set of 56 institutions-prescribed KPIs. It is used to compare the performance of the Colleges in the Institution or the programs within the college

3. Provide a composite of comparative performance based on specific Performance Criteria and KPIs to compare the performance of the Colleges in the Institution or the programs within the college.

4. Providing an objective quality management system based on (1), (2), and (3) for continuous improvements and as an "internal ranking system" for the allocation of resources or awards or capital resources of:

- Financial support for quality initiatives

- Financial incentives for quality motivations

IV. **Internal Benchmarking approach**

(a)   Definition of Internal benchmark as used in KSU

KSU defines its "internal benchmark as a set of values based on the median computation of the lowest and highest values for each set of metrics across similar groupings of different entities within a similar sub-set, e.g., courses within a program; programs with a college; colleges within the institution."

(b)   Guidelines for Internal Benchmark Computations

These are the computation technique for all the Performance Metrics at all levels of the Internal College, Internal Institution & Target Benchmarks Computation:

1. Institution-Level Performance Metrics:

i. *Target Benchmark:* The highest value from all institutions' programs is selected and used.

ii. *Internal College Benchmark:* The median value from all the colleges' values (actual benchmark) is selected and used as an internal college benchmark

iii. *Internal Institution Benchmark:* The median value from all the program values (actual benchmark) is selected and used as the internal institution benchmark.

2. College-Level Performance Metrics:

i. *Target Benchmark:* The highest or lowest value (actual benchmark) from all programs within the college is selected and used.

ii. ***Internal College Benchmark:*** The median value (actual benchmark) from all the programs within the college is selected and used as the internal college benchmark.

iii. ***Internal Institution Benchmark:*** The median value (actual benchmark) from all colleges within the Institution is selected and used as the internal institution benchmark.

3. **Program Level Performance Metrics:**

i. ***Target Benchmark:*** The highest or lowest value (actual benchmark) from all the programs within the college is selected and used for the selected program.

ii. ***Internal College Benchmark:*** The median value (actual benchmark) from all the programs within the college of the selected program is selected and used.

iii. ***Internal Institution Benchmark:*** The median value (actual benchmark) from all the institutions' programs is selected and used as the internal institution benchmark.

(c) **Design of 20|20 KSU-QPMS Benchmarking**

The unique design of the KSU–QPMS utilizes the following:

- ***Performance Criteria, Criteria, and KPIs –*** The KSU–QPMS has 11 Performance Criteria with Process Criteria and institution-prescribed KPIs, and

- ***Performance Score –*** The KSU–QPMS performance scoring has 1000 points allocated across the Institution's 11 Performance Criteria, Processes Criteria, and KPI sets.

As such, these unique designs of the allocation of the 1000 points system and the Institution KPIs can be used as internal benchmarks based on the following:

- The 1000 points that are allocated across the 11 Performance Criteria, the core Processes can be used as the benchmark of the performance of the core processes that constitute internal good or best practices in the college or program, and

- The institution-prescribed KPIs can be used as an internal benchmark of performance based on the achieved KPI of the college or program.

Technically, the internal benchmarks that are built into the KSU–QPMS and which can be used to create datasets for computation of benchmarks are the:

- ***Performance Criteria and Process Criteria –*** 11 Performance Criteria and core process criteria and performance scores (depending on purpose) based on the weighted performance score computations of core processes itself, OR

- *KPI (Key Performance Indicators)* – Computation of the Quantifiable ratios/ percentages/numbers or qualitative means average of the KPIs, OR

- *Performance Score of Process and Results Criteria* – Combination of the 11 Performance Criteria, core process criteria weighted score computations together with the computed KPIs, with an overall performance score totaling 1,000 points.

These datasets, as discussed above, can be computed for:

- *Within Programs in Individual College* – Datasets can be computed for all programs in each of the individual colleges for comparative benchmarking within one college in the Institution

- *Across Colleges in the Institution* - Datasets can be computed for all colleges. It is to determine and compare the performance across the Colleges in the Institution.

- *Within College Grouping* – Datasets can be computed for comparative benchmarking of the performance of colleges that share similar characteristics within the same discipline grouping. Some of these groupings are the Health Science Colleges and programs, the Humanities Grouping of Colleges, and the Science Grouping of colleges.

(d)   Determination of performance of Colleges and Programs using the KSU-QPMS

The basic principle behind performance assessment is to provide a snapshot at a point in time of "what and how" the college or programs manage their quality towards continuous improvements over time. The KSU–QPMS provides this basis of performance assessment based on its performance scoring of 1000 points and 56 KPIs (additional performance KPIs, in addition to the 43 QPMS KPIs) across 11 critical criteria snapshots to provide a holistic and objective picture of quality management performance.

The KSU–QPMS is intended to provide an objective assessment of quality management of its internal processes focused on crucial performance results of its performance scoring and KPIs. The performance of the Colleges and the Programs are based on the KSU–QPMS performance scoring and KPIs with its full-fledged Internal Benchmarking System.

Phase 1: Use of KPIs from KSU – QPMS as determinants of "Award" evaluation

In the initial Phase 1, 7 KPIs (which are more readily available and computable due to data availability) from the KSU–QPMS will be used to determine the "Academic Performance." The **7**

KPIs that can provide an objective evaluation and assessment of academic performance selected based on: 1) Student focused KPIs and 2) Faculty focused KPIs are:

Student Focused KPIs

- Percentage of students who graduated in the last three years who are recognized in the areas of academics, profession, or contribution to society at the national or international level (%)

- Proportion of students entering undergraduate programs who complete those programs in minimum time

- Students' overall rating on the quality of their courses (Average rating of students on a 5- point scale overall evaluation of courses)

- Percentage of students entering programs who successfully complete the first year

Faculty Focused KPIs

- Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)

- Proportion of teaching staff leaving the Institution in the past year for reasons other than age retirement

- Percentage of full-time faculty members participating in professional development activities during the past year

Phase 2: Use of KPIs from KSU – QPMS as determinants of College Ranking and Performance

In determining the performance of the Colleges/Programs for (1) ranking purposes, as the basis for (2) allocation of resources, or (3) informed decision-making on critical actions to be made, the KSU–QPMS also presents the same rationale of the use of the KPIs to justify the performance determinants and informed decision making. The potential to use these KSU–QPMS KPIs for comparative performance assessment leading to informed decision-making is very high. These selected KPIs can be computed as they are supported by the performance metrics system's computation of the KPIs. The key areas, including the 7 KPIs, can include (1) Research Focus and Community Service. These four areas underscore the critical mission of the College in Teaching, Learning, research, and Services to Society. The **14 KPIs** in these four key performance areas that subscribe to the College performance and achievements of its mission are:

Student Focused KPIs

- Percentage of students who graduated in the last three years who are recognized in the areas of academics, profession, or contribution to society at the national or international level (%)

- Proportion of students entering undergraduate programs who complete those programs in minimum time

- Students' overall rating on the quality of their courses (Average rating of students on a 5- point scale overall evaluation of courses)

- Percentage of students entering programs who successfully complete the first year

Faculty Focused KPIs

- Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)

- Proportion of teaching staff leaving the Institution in the past year for reasons other than age retirement

- Percentage of full-time faculty members participating in professional development activities during the past year

Research Focused KPIs

- Number of refereed publications in the previous year per full-time equivalent teaching staff member. (Publications based on the formula in the Higher Council Bylaw excluding conference presentations)

- Number of citations in refereed journals in the previous year per full-time equivalent teaching staff.

- Proportion of full-time members of teaching staff with at least one refereed publication during the previous year

- Ratio of internal research and innovation funds in proportion to the total number of full- time faculty members

- Ratio of external research and innovation funds in proportion to the total number of full- time faculty members

Stakeholders Satisfaction and Community Service KPIs

- Evaluation of satisfaction of employers/business operators/users of graduates/ alumni /parents/graduates on the competency of graduates (Means average and level achieved based on survey)

- Proportion of full-time teaching and other staff actively engaged in community service activities

In conclusion, it is recommended to use these additional 14 KSU–QPMS KPIs for comparative and evaluative performance assessment of the Colleges or Programs for informed decision-making leading to "ranking" of colleges or programs and allocation of resources. (Appendix 2)

Phase 3: Use of KSU–QPMS for holistic Internal Benchmarking

With the total input of the data from the support systems via the E-QPMS for KPI computation, and with 100% of the Colleges and Programs having implemented the KSU- QPMS, KSU is ready to apply the KSU–QPMS for Internal Benchmarking for comparative and evaluative performance. These internal benchmarks are based on the internal audit and assessment of the overall evaluation assessments of the KSU–QPMS Performance Criteria on 1000 points.

The complete mechanisms of the different types of performance analysis are described and illustrated in the attached KSU–QPMS Benchmarking System (June 2023), which will be used for comparative and evaluation quality and performance management.

In conclusion, it is recommended to use the full KSU–QPMS benchmarking System for comparative and evaluative performance assessment of the Colleges or Programs for informed decision making leading to "ranking" of colleges or programs and allocation of resources, or as needs dictate.

V.   **Types of Analysis and Internal Benchmarking**

Different types of computation, analysis, and internal benchmarks can be created based on their purpose or categorical grouping of the Colleges, using other Performance Criteria and KPIs. At KSU, Colleges that share similar characteristics are grouped into three main types of the categorical grouping of Colleges which are:

1.   Health Science Group

2.   Scientific Group

3.   Humanities Group

Summary of 20|20 KSU-QPMS Benchmarking System

The KSU-QPMS is designed to assess the core processes and performance metrics based on the adapted performance scoring methodology of MBNQA (Malcolm Baldrige National Quality Award) of 1000 points for the Processes and Results Criteria. It is meant to supplement the 20|20 KSU-QPMS Handbooks (5th Edition, June 2023) through a robust benchmarking system.

This methodology provides KSU with an objective performance assessment of the good practices within the core quality and performance criteria processes through a set of quantifiable Institution-prescribed KPIs. With these quantifiable and objective performance scores and the actual KPI as computed, these can be used as the basis for performance comparisons based on a generic set of Standards and Criteria:

- All Colleges within KSU as an institution;

- All programs within the same college as an entity;

- Colleges and programs are within a categorical Health Science, Humanities, and Science Groups grouping.

Based on the above rationale, the five different main types of computation and analysis (combined with the purpose of the above clustering) that can be used for internal benchmarking, which can be used as the basis of "ranking" within KSU (depending on the selection of the KPIs or areas or performance of its processes) are:

- **Type 1** Analysis and internal benchmarks (with three sub-types 1 to 3) are based on all the performance scoring of all Standards and core processes and all KPIs ;

- **Type 2** Analysis and internal benchmarks (with three sub-types 4 to 6) are based on the performance scoring of a selected group of Standards which the institution/college / categorical group desires, e.g., only the use of Criteria 1, 2, 3, and 4, 10 only;

- **Type 3** Analysis and internal benchmarks (with three sub-types 7 to 9) are based on selected institutional KPI of Standards and do not use the performance scores of the processes, e.g., 14 selected KPIs from Standard 3 (Teaching and Learning) and 7 (Research);

- **Type 4** Composite Analysis and internal benchmarks (with three sub-types 10 to 12) are on performance scoring of selected Standards as a related categorical grouping and selected prescribed Institutional KPI, e.g., Process Criteria and KPIs of Standards 4 (Teaching and Learning) and 7 (Research);

- **Type 5** Composite Analysis and internal benchmarks (with four sub-types 13 to 16) are based on performance scoring of all Standards or selected Standards for a related categorical grouping and selected prescribed Institutional KPI in a group of similar College category, e.g., only colleges in Health Science Group.

Using the analysis and approaches above, KSU can use this Internal Benchmarking System to determine the performance of each College/Program or Categorical group. It can use their performance scoring and KPIs as the basis for "ranking" and "allocation of resources," the basis of informed decision-making by the institution/college management.

The five different types of computation and analysis that can be used for internal benchmarking are:

- ❖ **Type 1** *Analysis and internal benchmarks are based on all performance scoring of the Performance Criteria* – Type 1 Analysis and internal benchmarking use the 1000 points performance score as the basis of the overall performance excellence. Each Performance and its Process and Result Criteria are weighted and scored to reach a weighted average. The total weighted average computed produces an overall performance score for each PC and its Criteria. This performance score is then summated to determine the entire College or Program performance score. The "ranking" of the performance is internally benchmarked across the Institution's different colleges or programs depending on the types of categorical analysis or internal benchmarking needed. This analysis and internal benchmark are applied across the board in all colleges regardless of specialty.

- ❖ **Type 2** *Analysis and internal benchmarks are based on all performance scoring of selected Performance Criteria as a related categorical grouping* – The Type 2 analysis and internal benchmarking are similar to Type 1, with the exception that the performance comparisons and the internal benchmarking are performed with the "comparable capacities and capabilities" of each colleges grouping. An example is the "Health Sciences" group which is similar in its "health and medical science uniqueness," which makes them more comparable "within a group" rather than "across groups" with the humanities or social sciences groups.

- ❖ **Type 3** *Analysis and internal benchmarks are based on selected institutional KPIs as Performance Criteria* – Type 3 analysis only uses the prescribed institutional KPI. Depending on the analytical needs or decisions of the Institution or college, a specific KPI type can be selected based on each of the 11 Performance Criteria. Or as a combination of "quality of teaching" that can be a composite of "Performance Criteria 4 KPI of Learning and Teaching" and "Performance Criteria 10 Research". It can be analyzed "within a group" or "across groups" within the Institution or for all college programs.

- ❖ **Type 4** *Composite Analysis and internal benchmarks are on performance scoring of selected Performance Criteria as a related categorical grouping and selected prescribed Institutional KPI* – The Type 4 analysis and internal benchmarks are

based on a composite of performance chosen Criteria and KPIs to provide an objective analysis or internal benchmark of the performance based on the analytical needs or decisions to be made by the Institution or college. An example is to combine the performance score of Performance Criteria 4 and 10 and KPIs that pertain to research, teaching, and learning to provide an objective analysis and internal benchmark of the performance "within a group" or "across groups" of colleges within the Institution or programs within the college.

❖ **Type 5** *Composite Analysis and internal benchmarks are based on performance scoring of all Performance Criteria or selected Performance Criteria for a related categorical grouping and established prescribed Institutional KPI in a Group of similar Colleges category.* Type 5 analysis and the internal benchmark are based on analyzing all the Performance Criteria, the prescribed institutional KPIs, or a composite of selected Performance Criteria and KPIs. An example is the "Health Science Group" performance analysis and benchmarking for an academic year of all colleges in this group. Another similar analysis can be performed for all programs within the same college.

VI. **Detailed samples and discussion of the five types of analysis and internal benchmarks**

a) **Type 1 Analysis based on all performance scoring Performance Criteria**

Table 1: Sample of Performance Scoring Comparisons of INSTITUTION / COLLEGE / PROGRAM AS A WHOLE across different academic years for trend analysis

Scaled Scoring Performance	Weights	Performance Achievement (Institution / College / Program)			
Performance Criteria (PC)		**2019**	**2020**	**2021**	**2022**
o PC 1: Mission and Objectives	40	8	21	25	29
o PC 2: Governance and Administration	50	10	21	25	32
o PC 3: Management of quality assurance & improvement	70	12	26	35	40
o PC 4: Learning and Teaching	250	48	60	90	120
o PC 5: Student administration and support services	70	23	33	40	45
o PC 6: Learning resources	60	26	32	35	35
o PC 7: Facilities and equipment	60	22	35	37	37
o PC 8: Financial planning & management	40	15	19	20	20
o PC 9: Employment processes	80	28	36	40	45
o PC 10: Research	200	61	80	110	130
o PC 11: Institutional relationships with the community	80	8	11	30	35
Performance Criteria Overall Performance Score	**1000**	**261**	**374**	**487**	**568**

Discussion: This analysis is based on all 11 Performance Criteria over four years to provide a trend analysis of the comparative performance of the Institution as a whole. It shows progressive improvements in all the Performance Criteria across the Institution over four years.

Table 2: Sample of Performance Scoring Comparisons of ALL COLLEGES WITHIN THE INSTITUTION in an academic year

Scaled Scoring Performance	Weights	Performance Achievement for the academic year 2022/2023			
Performance Criteria		College 1	College 2	College 3	College 4
o PC 1: Mission and Objectives	40	8	21	25	29
o PC 2: Governance and Administration	50	10	21	25	32
o PC 3: Management of quality assurance and improvement	70	12	26	35	40
o PC 4: Learning and Teaching	250	48	60	90	120
o PC 5: Student administration and support services	70	23	33	40	45
o PC 6: Learning resources	60	26	32	35	35
o PC 7: Facilities and equipment	60	22	35	37	37
o PC 8: Financial planning and management	40	15	19	20	20
o PC 9: Employment processes	80	28	36	40	45
o PC 10: Research	200	61	80	110	130
o PC 11: Institutional relationships with the community	80	8	11	30	35
Performance Criteria Overall Performance Score	**1000**	**261**	**374**	**487**	**568**

Discussion: This analysis is based on the 11 Performance Criteria providing a snapshot of the 2022/2023 annual comparative performance of all the colleges in the Institution. It shows that of the four colleges analyzed, compared, and internally benchmarked, the best-performing college is College 4, while the worst-performing college is College 1. Based on this internally benchmarked performance on the same 11 Performance Criteria, the Institution can take corrective or remedial actions or for the allocation of resources and financial incentives.

Table 3: Sample of Performance Scoring Comparisons WITHIN SAME COLLEGE OF ITS DIFFERENT PROGRAMS in an academic year

Scaled Scoring Performance	Weights	Performance Achievement for the academic year 2022/2023			
Performance Criteria		Program 1	Program 2	Program 3	Program 4
o PC 1: Mission and Objectives	40	8	21	25	29
o PC 2: Governance and Administration	50	10	21	25	32
o PC 3: Management of quality assurance and improvement	70	12	26	35	40

o PC 4: Learning and Teaching	250	48	60	90	120
o PC 5: Student administration and support services	70	23	33	40	45
o PC 6: Learning resources	60	26	32	35	35
o PC 7: Facilities and equipment	60	22	35	37	37
o PC 8: Financial planning and management	40	15	19	20	20
o PC 9: Employment processes	80	28	36	40	45
o PC 10: Research	200	61	80	110	130
o PC 11: Institutional relationships with the community	80	8	11	30	35
Performance Criteria Overall Performance Score	**1000**	**261**	**374**	**487**	**568**

Discussion: This analysis is based on all 11 Performance Criteria providing a snapshot of the 2022/2023 annual comparative performance of all the programs in the college. It shows that of the four programs analyzed, compared, and internally benchmarked, the best-performing college is Program 4, while the worst-performing college is Program 1. Based on this internally benchmarked performance on the same 11 Performance Criteria, the Institution or college administration can take corrective or remedial actions or for the allocation of resources and financial incentives.

b) **Type 2 Analysis based on all performance scoring of selected Performance Criteria as a related categorical grouping**

Table 4: Sample of Performance Scoring Comparisons and Institution / College/program related to Governance and quality of educational offers of INSTITUTION/COLLEGE/ PROGRAM AS A WHOLE across different academic years for trend analysis

Scaled Scoring Performance	Weights	Performance Achievement (Institution / College / Program)			
Performance Criteria related to governance and administration		**2019**	**2020**	**2021**	**2022**
o PC 1: Mission and Objectives	40	8	21	25	29
o PC 2: Governance and Administration	50	10	21	25	32
o PC 3: Management of quality assurance and improvement	70	12	26	35	40
Performance scores of governance and administration	*160*	*30*	*68*	*85*	*101*
Performance Criteria related to the quality of educational offers					
o PC 4: Learning and Teaching	250	48	60	90	120
o PC 10: Research	200	61	80	110	130
Performance scores of quality of educational offers	*450*	*109*	*140*	*200*	*250*
Overall Performance Score	**610**	**139**	**208**	**285**	**351**

Discussion: This analysis is based on a selected grouping of Performance Criteria over four years to provide a trend analysis of the comparative performance of the Institution as a whole. It shows progressive improvements in these selected Performance Criteria 1, 2, and 3, which relate to "administration and governance," and Performance Criteria 4 and 10, which relate to "quality of educational offers" across the whole Institution over four years.

Table 5: Sample of Performance Scoring Comparisons related to governance and quality of educational offers of ALL COLLEGES WITHIN THE INSTITUTION in an academic year

Scaled Scoring Performance	Weights	Performance Achievement for the academic year 2022/2023			
		College 1	College 2	College 3	College 4
Performance Criteria related to governance and administration					
o PC 1: Mission and Objectives	40	8	21	25	29
o PC 2: Governance and Administration	50	10	21	25	32
o PC 3: Management of quality assurance and improvement	70	12	26	35	40
Performance scores of governance and administration	*160*	*30*	*68*	*85*	*101*
Performance Criteria related to the quality of educational offers					
o PC 4: Learning and Teaching	250	48	60	90	120
o PC 10: Research	200	61	80	110	130
Performance scores of quality of educational offers	*450*	*109*	*140*	*200*	*250*
Overall Performance Score	**610**	**139**	**208**	**285**	**351**

Discussion: This analysis is based on a selected grouping of Performance Criteria to provide a trend analysis of the comparative performance of all the colleges in the Institution in the same academic year 2022/2023, as a whole. It shows these selected Performance Criteria 1, 2, and 3 related to "administration and governance" and Performance Criteria 4 and 10 related to "quality of educational offers" across the Institution. College 4 is the best performing, while College 1 is the worst performing college. This type of analysis and internal benchmark can be used by the Institution and poor-performing college to take remedial or corrective actions or to support decisions for the Institution's allocation of resources or financial incentives.

Table 6: Sample of Performance Scoring Comparisons related to governance and quality of educational offers WITHIN SAME COLLEGE OF ITS DIFFERENT PROGRAMS in an academic year

Scaled Scoring Performance	Weights	Performance Achievement for the academic year 2022/2023			
		Program 1	Program 2	Program 3	Program 4
Performance Criteria related to governance and administration					
o PC 1: Mission and Objectives	40	8	21	25	29
o PC 2: Governance and Administration	50	10	21	25	32
o PC 3: Management of quality assurance and improvement	70	12	26	35	40
Performance scores of governance and administration	*160*	*30*	*68*	*85*	*101*
Performance Criteria related to the quality of educational offers					
o PC 4: Learning and Teaching	250	48	60	90	120
o PC 10: Research	200	61	80	110	130
Performance scores of quality of educational offers	*450*	*109*	*140*	*200*	*250*
Overall Performance Score	**610**	**139**	**208**	**285**	**351**

Discussion: This analysis is based on a selected grouping of Performance Criteria to provide a trend analysis of the comparative performance of all the programs in a college in the same academic year 2022/2023, as a whole. It shows that these selected Performance Criteria 1, 2, and 3 relate to "administration and governance," and performance Criteria 4 and 10 relate to "quality of educational offers" across the college. Program 4 is the best performing, while Program 1 is the worst performing college. This type of analysis and internal benchmark can be used by the college and the poor-performing program to take remedial or corrective actions or to support decisions for allocating resources or financial incentives by the college.

c)   **Type 3 Analysis based on selected prescribed Institutional KPI of Performance Criteria**

Table 7: Sample of selected prescribed Institutional KPIs of Institution / College/ program of INSTITUTION/COLLEGE/PROGRAM AS A WHOLE across different academic years for trend analysis

Selected prescribed Institutional KPI	Weights	Performance Achievement (Institution / College / Program)			
		2019 Score/KPI	2020 Score/KPI	2021 Score/KPI	2022 Score/KPI
o Evaluation of Governance and Leadership Effectiveness	3	0.375/1.25	0.63/2.13	0.90/3.0	0.23/0.75
o Proportion of courses in which student evaluations were conducted during the year	3	0.46/1.43	0.15/0.45	0.45/1.35	0.05/0.15
o Proportion of full-time equivalent students in proportion to the total number of full-time faculty members	3	0.08/60:1	1.09/50:1	1.5/30:1	1.89/10:1
o Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)	3	0.60/0.02	0.62/0.03	0.62/0.03	1.28/0.05
o Proportion of students entering undergraduate programs who complete those programs in minimum time	3	0.08/0.12	0.49/0.33	0.9/0.55	1.77/0.85
o Proportion of full-time members of teaching staff with at least one refereed publication during the previous year	5	0.38/0.05	0.69/0.25	0.69/0.25	2.19/0.35
o Number of citations in refereed journals in the previous year per full-time equivalent teaching staff.	5	0.31/0.60	1.19/1.20	1.31/1.30	2.75/1.90
Performance scores of quality of educational offers and research	**25**	**2.29**	**4.87**	**6.37**	**10.16**
Overall Performance Score	**25**	**2.29**	**4.87**	**6.37**	**10.16**

Discussion: This analysis is based on selected prescribed institutional KPIs over four years to provide a trend analysis of the comparative performance of the Institution as a whole. It shows progressive improvements in selected prescribed institutional KPIs across the Institution over four years.

Note: The computed KPIs are based on the formulae and computation as described in detail in the KSU – QPMS Handbook 2 (5th Edition, June 2023)

Explanatory Notes:

e.   The KPI (Key Performance Indicators) are from the KSU – QPMS Handbook 2 (5th Edition, June 2023)

f.   The Score / KPI denotes the KPI computed based on the formulae for that KPI. The Score shows the overall LeTCI of KPI scoring (the level of performance of which there are six levels of performance, its trends, its comparisons, and integration) as per the KSU–QPMS.

g.   The overall performance is based on the overall computed scoring of the different KPIs.

Table 8: Sample of Performance Scoring of selected prescribed institutional KPI and actual KPI Comparisons of ALL COLLEGES WITHIN THE INSTITUTION in an academic year

Selected prescribed Institutional KPI	Weights	Performance Achievement for the academic year 2022/2023			
		College 1 Score/KPI	College 2 Score/KPI	College 3 Score/KPI	College 4 Score/KPI
o Evaluation of Governance and Leadership Effectiveness	3	0.375/1.25	0.638/2.13	0.90/3.0	0.23/0.75
o Proportion of courses in which student evaluations were conducted during the year	3	0.46/1.43	0.15/0.45	0.45/1.35	0.05/0.15
o Proportion of full-time equivalent students in proportion to the total number of full-time faculty members	3	0.08/60:1	1.09/50:1	1.5/30:1	1.89/10:1
o Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)	3	0.60/0.02	0.62/0.03	0.62/0.03	1.28/0.05
o Proportion of students entering undergraduate programs who complete those programs in minimum time	3	0.08/0.12	0.49/0.33	0.9/0.55	1.77/0.85
o Proportion of full-time members of teaching staff with at least one refereed publication during the previous year	5	0.38/0.05	0.69/0.25	0.69/0.25	2.19/0.35
o Number of citations in refereed journals in the previous year per full-time equivalent teaching staff.	5	0.31/0.60	1.19/1.20	1.31/1.30	2.75/1.90
Performance scores of quality of educational offers and research	**25**	**2.29**	**4.87**	**6.37**	**10.16**
Overall Performance Score	**25**	**2.29**	**4.87**	**6.37**	**10.16**

Discussion: This analysis is based on selected prescribed KPIs to provide a snapshot of the annual comparative performance of all the colleges in the Institution as a whole in the academic year 2022/2023. It shows that of the four colleges analyzed, compared, and internally benchmarked, the best-performing college is College 4, while the worst-performing college is College 1. Based on this internally benchmarked performance on the same 11 Performance Criteria, the Institution can take corrective or remedial actions or for the allocation of resources and financial incentives

Table 9: Sample of Performance Scoring of selected prescribed institutional KPI and actual KPI Comparisons WITHIN SAME COLLEGE OF ITS DIFFERENT PROGRAMS in academic year

Selected prescribed Institutional KPI	Weights	Performance Achievement for the academic year 2022/2023			
		Program 1 Score/KPI	Program 2 Score/KPI	Program 3 Score/KPI	Program 4 Score/KPI
o Evaluation of Governance and Leadership Effectiveness (Means average and level achieved based on survey)	3	0.38/1.25	0.64/2.13	0.90/3.0	0.23/0.75
o Proportion of courses in which student evaluations were conducted during the year	3	0.46/1.43	0.15/0.45	0.45/1.35	0.05/0.15
o Proportion of full-time equivalent students in proportion to the total number of full-time faculty members	3	0.08/60:1	1.09/50:1	1.5/30:1	1.89/10:1
o Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)	3	0.60/0.02	0.62/0.03	0.62/0.03	1.28/0.05
o Proportion of students entering undergraduate programs who complete those programs in minimum time	3	0.08/0.12	0.49/0.33	0.9/0.55	1.77/0.85
o Proportion of full-time members of teaching staff with at least one refereed publication during the previous year	5	0.38/0.05	0.69/0.25	0.69/0.25	2.19/0.35

Scaled Scoring Performance	Weights				
Number of citations in refereed journals in the previous year per full-time equivalent teaching staff.	5	0.31/0.60	1.19/1.20	1.31/1.30	2.75/1.90
Performance scores of quality of educational offers and research	**25**	**2.29**	**4.87**	**6.37**	**10.16**
Overall Performance Score	**25**	**2.29**	**4.87**	**6.37**	**10.16**

Discussion: This analysis is based on selected prescribed KPIs to provide a snapshot of the annual comparative performance of all the programs in the college as a whole in the academic year 2022/2023. It shows that of the four programs analyzed, compared, and internally benchmarked, the best-performing college is Program 4, while the worst-performing college is Program 1. Based on this internally benchmarked performance on the same 11 Performance Criteria, the college and its poor-performing program can take corrective or remedial actions or for the college's allocation of resources and financial incentives.

d)   **Type 4 Composite Analysis based on performance scoring of selected Performance Criteria as a related categorical grouping and selected prescribed Institutional KPI**

Table 10: Sample of Performance Scoring Comparisons and Institution / College/program related to Governance and quality of educational offers of INSTITUTION / COLLEGE / PROGRAM AS A WHOLE across different academic years for trend analysis

Scaled Scoring Performance	Weights	Performance Achievement (Institution / College / Program)			
		2019	**2020**	**2021**	**2022**
Performance Criteria related to the quality of educational offers					
o PC 4: Learning and Teaching	250	48	60	90	120
o PC 10: Research	200	61	80	110	130
Performance scores of quality of educational offers	*450*	*109*	*140*	*200*	*250*

Selected prescribed Institutional KPI		**2019**	**2020**	**2021**	**2022**
		Score/KPI	**Score/KPI**	**Score/KPI**	**Score/KPI**
o Proportion of full-time equivalent students in proportion to the total number of full-time faculty members	3	0.08/60:1	1.09/50:1	1.5/30:1	1.89/10:1
o Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)	3	0.60/0.02	0.62/0.03	0.62/0.03	1.28/0.05
o Proportion of students entering undergraduate programs who complete those programs in minimum time	3	0.08/0.12	0.49/0.33	0.9/0.55	1.77/0.85

	Weights				
o Proportion of full-time members of teaching staff with at least one refereed publication during the previous year	5	0.38/0.05	0.69/0.25	0.69/0.25	2.19/0.35
o Number of citations in refereed journals in the previous year per full- time equivalent teaching staff.	5	0.31/0.60	1.19/1.20	1.31/1.30	2.75/1.90
Performance scores of quality of educational offers and research	19	1.45	4.08	5.02	9.88
Overall Performance Score	469	**110.45**	**144.08**	**205.02**	**259.88**

Discussion: This type of analysis is a composite of select Performance Criteria and selected prescribed KPIs over four years to provide a trend analysis of the comparative performance of the Institution as a whole. It shows that progressive improvements in these selected Performance Criteria 4 and 10 relate to "quality of educational offers" across the Institution over four years. It is also supported by the analysis of the selected prescribed institutional KPIs to provide an objective set of analysis and internal benchmark based on selected Performance Criteria and KPIs, which in this case are the KPIs related to "quality of teaching, learning, and research." In this case, it shows progressive improvements throughout four years of trend analysis.

Table 11: Sample of Performance Scoring Comparisons related to governance and quality of educational offers of ALL COLLEGES WITHIN THE INSTITUTION in an academic year

Scaled Scoring Performance	Weights	Performance Achievement for the academic year 2022/2023			
		College 1	College 2	College 3	College 4
Performance Criteria related to the quality of educational offers					
o PC 4: Learning and Teaching	250	48	60	90	120
o PC 10: Research	200	61	80	110	130
Performance scores of quality of educational offers	*450*	*109*	*140*	*200*	*250*
Selected prescribed Institutional KPI		College 1 Score/KPI	College 2 Score/KPI	College 3 Score/KPI	College 4 Score/KPI
o Proportion of full-time equivalent students in proportion to the total number of full-time faculty members	3	0.08/60:1	1.09/50:1	1.5/30:1	1.89/10:1
o Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)	3	0.60/0.02	0.62/0.03	0.62/0.03	1.28/0.05
o Proportion of students entering under-graduate programs who complete those programs in minimum time	3	0.08/0.12	0.49/0.33	0.9/0.55	1.77/0.85
o Proportion of full-time members of teaching staff with at least one refereed publication during the previous year	5	0.38/0.05	0.69/0.25	0.69/0.25	2.19/0.35
o Number of citations in refereed journals in the previous year per full-time equivalent teaching staff.	5	0.31/0.60	1.19/1.20	1.31/1.30	2.75/1.90
Performance scores of quality of educational offers and research	19	1.45	4.08	5.02	9.88
Overall Performance Score	469	**110.45**	**144.08**	**205.02**	**259.88**

Discussion: This type of analysis is a composite of select Performance Criteria and selected prescribed KPIs to provide a snapshot of the 2022/2023 academic year trend analysis of the comparative performance of all the colleges in the Institution as a whole. It shows that College 4 is the "best performing" while College 1 is the "worst performing" based on these selected Performance Criteria 4 and 10 that relate to "quality of educational offers" across the whole Institution as a whole. It is also supported by the analysis of the selected prescribed institutional KPIs to provide an objective set of analysis and internal benchmark based on performance chosen Criteria and KPIs, which in this case are the KPIs related to "quality of teaching, learning, and research." It supports the comparative performance of the Colleges based on the KPIs and a combination of both the selected Performance Criteria and the overall KPIs analysis.

Table 12: Sample of Performance Scoring Comparisons related to governance and quality of educational offers WITHIN SAME COLLEGE OF ITS DIFFERENT PROGRAMS in an academic year

Scaled Scoring Performance	Weights	Performance Achievement for the academic year 2022/2023			
		Program 1	Program 2	Program 3	Program 4
Performance Criteria related to the quality of educational offers					
o PC 4: Learning and Teaching	250	48	60	90	120
o PC 10: Research	200	61	80	110	130
Performance scores of quality of educational offers	*450*	*109*	*140*	*200*	*250*
Selected prescribed Institutional KPI		Program 1 Score/KPI	Program 2 Score/KPI	Program 3 Score/KPI	Program 4 Score/KPI
o Proportion of full-time equivalent students in proportion to the total number of full-time faculty members	3	0.08/60:1	1.09/50:1	1.5/30:1	1.89/10:1
o Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)	3	0.60/0.02	0.62/0.03	0.62/0.03	1.28/0.05
o Proportion of students entering undergraduate programs who complete those programs in minimum time	3	0.08/0.12	0.49/0.33	0.9/0.55	1.77/0.85
o Proportion of full-time members of teaching staff with at least one refereed publication during the previous year	5	0.38/0.05	0.69/0.25	0.69/0.25	2.19/0.35
o Number of citations in refereed journals in the previous year per full-time equivalent teaching staff.	5	0.31/0.60	1.19/1.20	1.31/1.30	2.75/1.90
Performance scores of quality of educational offers and research	19	1.45	4.08	5.02	9.88
Overall Performance Score	469	**110.45**	**144.08**	**205.02**	**259.88**

Discussion: This type of analysis is a composite of select Performance Criteria and selected prescribed KPIs to provide a snapshot of the 2022/2023 academic year trend analysis of the

comparative performance of all the college programs. It shows that Program 4 is the "best performing" while Program 1 is the "worst performing" based on these selected Performance Criteria 4 and 10 that relate to "quality of educational offers" across the college as a whole. It is also supported by the analysis of the selected prescribed institutional KPIs to provide an objective set of analysis and internal benchmark based on performance chosen Criteria and KPIs, which in this case are the KPIs related to "quality of teaching, learning, and research." It supports the comparative performance of the programs within the same college based on the KPIs and a combination of both the selected Performance Criteria and the overall KPIs analysis.

e) **Type 5 Composite Analysis based on performance scoring of selected Performance Criteria and selected prescribed Institutional KPI within a related categorical grouping in a Group of similar Colleges category**

Table 13: Sample of Performance Scoring Comparisons 0f COLLEGES IN A CATEGORICAL GROUP in an academic year for trend analysis

Scaled Scoring Performance	Weights	Performance Achievement for the academic year 2022/2023			
Performance Criteria		College of Medical Science	College of Dentistry	College of Pharmacy	College of Nursing
o PC 1: Mission and Objectives	40	8	21	25	29
o PC 2: Governance and Administration	50	10	21	25	32
o PC 3: Management of quality assurance and improvement	70	12	26	35	40
o PC 4: Learning and Teaching	250	48	60	90	120
o PC 5: Student administration & support services	70	23	33	40	45
o PC 6: Learning resources	60	26	32	35	35
o PC 7: Facilities and equipment	60	22	35	37	37
o PC 8: Financial planning and management	40	15	19	20	20
o PC 9: Employment processes	80	28	36	40	45
o PC 10: Research	200	61	80	110	130
o PC 11: Institutional relationships with the community	80	8	11	30	35
Performance Criteria Overall Performance Score	**1000**	**261**	**374**	**487**	**568**

Discussion: This analysis is based on all 11 Performance Criteria to provide a snapshot of the annual comparative performance of all the colleges in the "Health Sciences Group" in the academic year 2022/2023. It shows that of the four colleges in the "Health Sciences Group" analyzed, compared, and internally benchmarked; the best-performing college is the College of Pharmacy, while the worst-performing college is the College of Medical Science. Based on this internally benchmarked performance on the same 11 Performance Criteria, the Institution can take corrective or remedial actions or for the allocation of resources and financial incentives.

Table 14: Sample of Performance Scoring of selected prescribed institutional KPI and actual KPI Comparisons WITHIN SAME COLLEGE OF ITS DIFFERENT PROGRAMS in a categorical group in an academic year

Selected prescribed Institutional KPI	Weights	Performance Achievement for the academic year 2022/2023			
		College of Medical Science Score/KPI	College of Dentistry Score/KPI	College of Pharmacy Score/KPI	College of Nursing Score/KPI
o Evaluation of Governance and Leadership Effectiveness	3	0.38/1.25	0.64/2.13	0.90/3.0	0.23/0.75
o Proportion of courses in which student evaluations were conducted during the year	3	0.46/1.43	0.15/0.45	0.45/1.35	0.05/0.15
o Proportion of full-time equivalent students in proportion to the total number of full- time faculty members	3	0.08/60:1	1.09/50:1	1.5/30:1	1.89/10:1
o Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)	3	0.60/0.02	0.62/0.03	0.62/0.03	1.28/0.05
o Proportion of students entering undergraduate programs who complete those programs in minimum time	3	0.08/0.12	0.49/0.33	0.9/0.55	1.77/0.85
o Proportion of full-time members of teaching staff with at least one refereed publication during the previous year	5	0.38/0.05	0.69/0.25	0.69/0.25	2.19/0.35
o Number of citations in refereed journals in the previous year per full-time equivalent teaching staff.	5	0.31/0.60	1.19/1.20	1.31/1.30	2.75/1.90
Performance scores of quality of educational offers and research	**25**	**2.29**	**4.87**	**6.37**	**10.16**
Overall Performance Score	**25**	**2.29**	**4.87**	**6.37**	**10.16**

Discussion: This analysis is based on selected prescribed institutional KPIs to provide a snapshot of the annual comparative performance of all the colleges in the "Health Sciences Group" in the academic year 2022/2023. It shows that the four colleges in the "Health Sciences Group" analyzed, compared, and internally benchmarked; the best-performing college is the College of Pharmacy, while the worst- performing college is the College of Medical Science. Based on this internally benchmarked performance on the selected prescribed institutional KPIs, the Institution and the affiliated colleges can take corrective or remedial actions or for the allocation of resources and financial incentives.

Table 15: Sample of Performance Scoring Comparisons and Institution / College/program related to PC 4 and 10 on quality of educational offers COLLEGES IN A CATEGORICAL GROUP in an academic year for trend analysis

Scaled Scoring Performance	Weights	Performance Achievement for the academic year 2022/2023			
		College of Medical Science	College of Dentistry	College of Pharmacy	College of Nursing
Performance Criteria related to the quality of educational offers					
o PC 4: Learning and Teaching	250	48	60	90	120
o PC 10: Research	200	61	80	110	130
Performance scores of quality of educational offers	*450*	*109*	*140*	*200*	*250*
Selected prescribed Institutional KPI		College of Medical Science Score/KPI	College of Dentistry Score/KPI	College of Pharmacy Score/KPI	College of Nursing Score/KPI
o Proportion of full-time equivalent students in proportion to the total number of full-time faculty members	3	0.08/60:1	1.09/50:1	1.5/30:1	1.89/10:1
o Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)	3	0.60/0.02	0.62/0.03	0.62/0.03	1.28/0.05
o Proportion of students entering undergraduate programs who complete those programs in minimum time	3	0.08/0.12	0.49/0.33	0.9/0.55	1.77/0.85
o Proportion of full-time members of teaching staff with at least one refereed publication during the previous year	5	0.38/0.05	0.69/0.25	0.69/0.25	2.19/0.35
o Number of citations in refereed journals in the previous year per full- time equivalent teaching staff.	5	0.31/0.60	1.19/1.20	1.31/1.30	2.75/1.90
Performance scores of quality of educational offers and research	19	1.45	4.08	5.02	9.88
Overall Performance Score	**469**	**110.45**	**144.08**	**205.02**	**259.88**

Discussion: This analysis is based on selected Performance Criteria 4 and 10 (for performance analysis about "quality of educational offers and research"), and prescribed institutional KPIs provide a snapshot of the annual comparative performance of all the colleges in the "Health Sciences Group" as a whole in the academic year 2022/2023. It shows that of the four colleges in the "Health Sciences Group" analyzed, compared, and internally benchmarked; the best-performing college is the College of Pharmacy, while the worst-performing college is the College of Medical Science. Based on this internally benchmarked performance on the selected Performance Criteria and selected prescribed institutional KPIs, the Institution and the affiliated colleges can take corrective or remedial actions or for the allocation of resources and financial incentives.

Table 16: Sample of Performance Scoring Comparisons related to governance and quality of educational offers of PROGRAMS IN A COLLEGE of a CATEGORICAL GROUP in an academic year

Scaled Scoring Performance	Weights	Performance Achievement of College of Nursing for the academic year 2022/2023			
		Program 1	Program 2	Program 3	Program 4
Performance Criteria related to the quality of educational offers					
o PC 4: Learning and Teaching	250	48	60	90	120
o PC 10: Research	200	61	80	110	130
Performance scores of quality of educational offers	*450*	*109*	*140*	*200*	*250*
Selected prescribed Institutional KPI		**Program 1 Score/KPI**	**Program 2 Score/KPI**	**Program 3 Score/KPI**	**Program 4 Score/KPI**
o Proportion of full-time equivalent students in proportion to the total number of full-time faculty members	3	0.08/60:1	1.09/50:1	1.5/30:1	1.89/10:1
o Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)	3	0.60/0.02	0.62/0.03	0.62/0.03	1.28/0.05
o Proportion of students entering undergraduate programs who complete those programs in minimum time	3	0.08/0.12	0.49/0.33	0.9/0.55	1.77/0.85
o Proportion of full-time members of teaching staff with at least one refereed publication during the previous year	5	0.38/0.05	0.69/0.25	0.69/0.25	2.19/0.35
o Number of citations in refereed journals in the previous year per full time equivalent teaching staff.	5	0.31/0.60	1.19/1.20	1.31/1.30	2.75/1.90
Performance scores of quality of educational offers and research	19	0.91	4.08	5.02	9.88
Overall Performance Score	469	**109.91**	**144.08**	**205.02**	**259.88**

Discussion: This analysis is based on selected Performance Criteria 4 and 10 (for performance analysis about "quality of educational offers and research"). It includes prescribed institutional KPIs providing a snapshot of the annual comparative performance of all the programs in the "Health Sciences Group of the College of Nursing" in the academic year 2022/2023. It shows that of the four programs in the "Health Sciences Group of the College of Nursing" analyzed, compared, and internally benchmarked; the best- performing college is the College of Pharmacy, while the worst-performing program is Program 4. Based on this internally benchmarked performance on the selected Performance Criteria and selected prescribed institutional KPIs, the college and the related programs can take corrective or remedial actions or for the allocation of resources and financial incentives.

VII. Sample of using the Data Analytics

The Performance Metrics Data Analytics can be used for any purpose as deemed appropriate. Two examples illustrating their potential applications:

(a) For the Ranking purpose

Performance Scoring for Comparative Performance Assessment based on KPIs of Teaching and Learning, Research, Stakeholder Satisfaction, and Community Services

Selected prescribed Institutional KPI	College Performance Achievement			
	College of Medicine	College of Arts	College of Dentistry	College of Business
Student Focused Performance	KPI / Level	KPI / Level	KPI / Level	KPI / Level
o Percentage of students who graduated in the last 3 years recognized in areas of academics, or profession, or contribution to society at the national or international level (%)	0.025 / L2	0.020 / L2	0.015 / L1	0.010 / L1
o Proportion of students entering undergraduate programs who complete those programs in minimum time (NCAAA 9 - Means average and Level achieved)	0.78 / L5	0.35 / L3	0.7 0/ L5	0.30 / L3
o Students' overall rating on the quality of their courses (Average rating of students on a 5- point scale overall evaluation of courses) (NCAAA 6 - Means average and Level achieved based on survey)	4.1 / L5	3.8 / L4	3.9 / L4	3.2 / L3
o Percentage of students entering programs who successfully complete first year (NCAAA 8 - Means average and Level achieved)	0.55 / L4	0.65 / L5	0.50 / L4	0.35 / L3
Performance Score of Student-Focused KPI performance	**Avg. L 4**	**Avg. L3.5**	**Avg. L3.5**	**Avg. L2.5**
Faculty Focused Performance	KPI / Level	KPI / Level	KPI / Level	KPI / Level
o Percentage of the full-time faculty members obtaining academic or professional awards at the national or international level. (%)	0.025 / L2	0.020 / L2	0.015 / L1	0.010 / L1
o Proportion of teaching staff leaving the Institution in the past year for reasons other than age retirement (NCAAA 24 – Ratio average and Level achieved)	0.05 / L6	0.15 / L5	0.25 /L4	0.15 / L5
o Percentage of full-time faculty members participating in professional development activities during the past year (NCAAA 25 – Ratio average and Level achieved)	0.65 / L5	0.35 / L4	0.65 / L5	0.25 / L3
Performance Score of Faculty-Focused KPI performance	**Avg. L5.5**	**Avg. L4.5**	**Avg. L4.5**	**Avg. L4.0**
Research Focused Performance	KPI / Level	KPI / Level	KPI / Level	KPI / Level
o Number of refereed publications in the previous year per full-time equivalent member of teaching staff. (Publications based on the formula in the Higher Council Bylaw excluding conference presentations) (NCAAA 26 - Ratio average and Level achieved)	0.35 / L4	0.15 / L2	0.25 / L3	0.16 /2
o Number of citations in refereed journals in the previous year per full time equivalent teaching staff. (NCAAA 27 - Ratio average and Level achieved)	0.45 / L5	0.25 / L3	0.35 / L4	0.15 / L2

	Level	Level	Level	Level
o Proportion of full time members of teaching staff with at least one refereed publication during the previous year (NCAAA 28 - Ratio average and Level achieved)	0.45 / L5	0.25 / L2	0.35 / L4	0.15 / L2
o Ratio of internal research and innovation funds in proportion to the total number of full- time faculty members	0.20 / L5	0.07 / L2	0.17 /L4	0.07 / L2
o Ratio of external research and innovation funds in proportion to the total number of full- time faculty members (NCAAA 30 - Ratio average and Level achieved)	0.30 / L6	0.16 / L3	0.22 / L5	0.16 / L3
Performance Score of Research-Focused KPI performance	**Avg. L 5.3**	**Avg. L 2.3**	**Avg. L 4.3**	**Avg. L 2.3**
Stakeholders' Satisfaction and Community Service- Focused Performance	**KPI / Level**	**KPI / Level**	**KPI / Level**	**KPI / Level**
o Evaluation of satisfaction of employers/ business operators/ users of graduates /alumni /parents/ graduates on the competency of graduates (Means average and Level achieved based on survey)	3.5 / L4	3.7 / L4	3.8 / L4	4.1 / L5
o Proportion of full-time teaching and other staff actively engaged in community service activities (NCAAA 32 - Ratio average and Level achieved)	0.15 / L3	0.16 / L4	0.21 / L5	0.11 / L3
Performance Score Stakeholders Satisfaction and Community Service Focused KPI performance	**Avg. L 3.5**	**Avg. L 4.0**	**Avg. L 4.5**	**Avg. L 4.0**
Overall Ranking Performance Score	**Avg. L 4.6**	**Avg. L 3.6**	**Avg. L 4.2**	**Avg. L 3.2**

(b)   For Awards Selection Purpose

Performance Scoring for Comparative Performance Assessment based on KPIs of Academic Performance FOR "AWARD" selection

	College Performance Achievement			
Selected prescribed Institutional KPI	**College of Medicine**	**College of Medicine**	**College of Medicine**	**College of Medicine**
Student Focused Performance	**KPI / Level**	**KPI / Level**	**KPI / Level**	**KPI / Level**
o Percentage of students who graduated in the last 3 years who are recognized in the areas of academics, or profession, or contribution to society at the national or international level (%)	0.025 / L2	0.020 / L2	0.015 / L1	0.010 / L1
o Proportion of students entering undergraduate programs who complete those programs in minimum time (NCAAA 9 - Means average and Level achieved)	0.78 / L5	0.35 / L3	0.7 0/ L5	0.30 / L3
o Students' overall rating on the quality of their courses (Average rating of students on a 5 point scale overall evaluation of courses) (NCAAA 6 - Means average and Level achieved based on survey)	4.1 / L5	3.8 / L4	3.9 / L4	3.2 / L3
o Percentage of students entering programs who successfully complete first year (NCAAA 8 - Means average and Level achieved)	0.55 / L4	0.65 / L5	0.50 / L4	0.35 / L3
Performance Score of Student-Focused KPI performance	**Avg. L 4**	**Avg. L3.5**	**Avg. L3.5**	**Avg. L2.5**
Faculty Focused Performance	**KPI / Level**	**KPI / Level**	**KPI / Level**	**KPI / Level**
o Percentage of full-time faculty members obtaining academic or professional awards at the national or international level. (%)	0.025 / L2	0.020 / L2	0.015 / L1	0.010 / L1
o Proportion of teaching staff leaving the Institution in the past year for reasons other than age retirement (NCAAA 24 – Ratio average and Level achieved)	0.05 / L6	0.15 / L5	0.25 /L4	0.15 / L5
o Percentage of full-time faculty members participating in professional development activities during the past year (NCAAA 25 – Ratio average and Level achieved)	0.65 / L5	0.35 / L4	0.65 / L5	0.25 / L3
Performance Score of Faculty-Focused KPI performance	**Avg. L5.5**	**Avg. L4.5**	**Avg. L4.5**	**Avg. L 3.25**
Overall Academic Performance Score	**Avg. L 4.75**	**Avg. L 4.0**	**Avg. L 4.0**	**Avg. L 4.0**

VIII. Conclusion

The above discussion shows that the design of the KSU–QPMS based on the performance excellence model and its performance assessment and scoring rubrics in the KSU–QPMS Handbooks 1 and 2 (5th Edition, June 2023) provides a strong foundation of:

- Performance assessment based on the performance scoring system and its KPI,

- The Performance scores based on the Process Criteria and the Results Criteria, together with the prescribed institutional KPIs, can be used as a set of internal benchmarks within an academic year or for trend analysis across academic years, and for comparative analysis within or across colleges in the Institution or programs in the same college.

- Categorical groups of similar colleges or programs can also be a performance for internal analysis and internal benchmarking.

These internal benchmarked performance analyses can be used at the Institution or colleges to take corrective or remedial actions or to support decisions for resource allocations.