جامعة الملك سعود
King Saud University
1957
Vice Rectorate for Planning & Development
Deanship of Quality and Development

DEMYSTIFYING THE ITQAN 2020:

A SYNOPSIS

(1st Edition, February 2018)

Development and Quality Culture Series

Introduction

Dear Fellow KSUians,

Since the introduction of the KSU-QMS (Quality Management System) in 2009, it represents the core of sustainable continuous improvements in quality & accreditation management. In 2014, this manual based system has undergone a reframing with the identification of the 3 Stages Framework of the KSU – QMS. It is with pleasure for me to say that KSU, as the pioneering premier institution in KSA in all aspects of quality management and accreditation, KSU became the first institution to submit its SSRI & SESR online to EEC-NCAAA. This triumph is based on the KSU 2030 "Towards Excellence" and KSA Vision 2030 for improved and increased productivity through digital transformation of its quality & accreditation management and planning & performance management through its information management.

This digital transformation as espoused in this "Demystifying ITQAN 2020: An Introductory Synopsis" is based on the 3 stages KSU – QMS Framework of (1) Stage 1 Self-Study, (2) Stage 2 Audit & Assessment and (3) Stage 3 Developmental Planning that are

transformed into the ITQAN 2020 Performance Management System. The core systems of the ITQAN 2020 are the (1) ITQAN G (Generic) system for institutional accreditation; (2) ITQAN + (Plus) system for Programmatic Quality & Accreditation Management, and the (3) ITQAN + 2 (Plus Two) which will complete the whole ITQAN 2020 System with enhanced components of ITQAN G and ITQAN + and adding the integrated electronic power of Planning and Performance Management seamlessly.

All these are aimed at two aspects of (1) higher productivity of quality, planning & information management, and (2) better informed decisions making and actions through better reliable and informative performance monitoring and management. We hope that the KSU family will subscribe this digital transformation era, and we wish all academic units the best in their quality, planning, information and performance management endeavours in many more years to come to continue and spearhead KSU educational achievements.

Thank you.

Prof. Yousif Abdu Asiri, M.S., Ph.D.

Vice - Rector for Planning and Development

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Demystifying ITQAN 2020 System

Part 1: Introduction

With the KSU – QMS established in 2009, a move towards computerization of the manual based quality, planning and information management system was made in 2014. This is transposed as the integrated electronic ITQAN 2020 System which was developed and designed with two overarching aims of:

1. Accomplishing and achieving the KSA Vision 2030 and KSU 2030 "Towards Excellence" digitization transformation and increasing productivity of its academic and administrative capacity and capabilities.
2. Transforming digitally the quality, planning & information management leading to performance management through an integrated electronic ITQAN 2020 platform in support of seamless and timely increased productivity and informed decision making by all levels of KSU users and administrators.

Part 2: Conceptualization of the ITQAN 2020 System Components

Figure 1: Quality, Planning and Information Trio

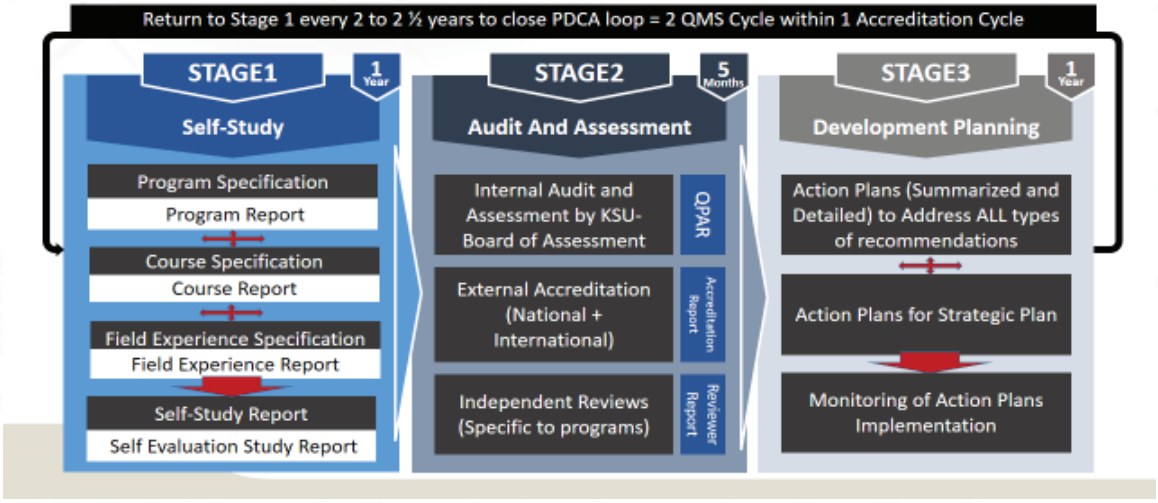
Based on the aims above, the basic ITQAN 2020 System conception (Figure 1) is designed to meet the three key strategic pillars of KSU 2030 "Towards Excellence" of:

1. **Quality Management –** This addresses all aspects of continuous improvements of quality & accreditation management meeting

academic & educational services & support requirements of national & international accreditation.

2. **Planning Management –** This addresses all strategic and annual operational planning of all academic & administrative units inclusive of developmental planning from quality & accreditation management.
3. **Information Management –** This addresses the academic & administrative data, documentary and information inclusive of strategic / tactical & operational performance metrics and dashboards needs for evidenced based performance assessment that underscores all informed decision making by all users and management.

Figure 2: 3 Stages of KSU performance Management System

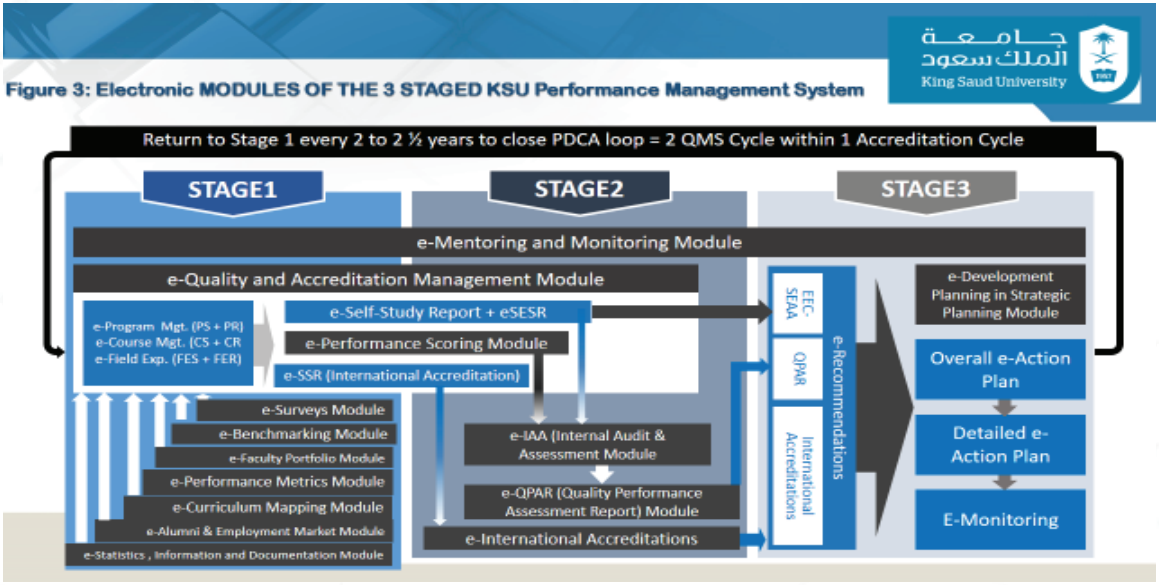


To accomplish the 3 strategic pillars of quality, planning and information management, the KSU – QMS was re-framed into a more objective concretized 3 Staged KSU Performance Management System (Figure 2). These 3 stages are the:

1. Stage 1 (Self-Study) – This addresses the core requirements of EEC-NCAAA for Program Management (Program Specifications & Reports) and Course Management Courses & Field Experiences Specifications & Reports), all of which culminates in the quality & accreditation requirements of Self-Study and Self-Evaluation Scaled Reports.
2. Stage 2 (Audit and Assessment) – This addresses two type of audit and assessment leading to a set of as follows:
    a. Bi-annual internal audit & assessment of all programs by the institution appointed KSU Board of Assessors and that forms the continuous improvements within a 5 years accreditation cycle.
    b. National EEC-NCAAA or International accreditation of all programs by internal assessors.
    c. External reviewers as appointed by the College for expert or specialist program reviews by independent external specialists.
3. Stage 3 (Developmental Planning) – The outcomes of the Stage 2 assessment reports feeds into the Stage 3 for developmental planning that is constituted as action plans within the collegial strategic planning and annual operation plans.

These 3 stages follows the basic Deming PDCA (Plan-Do-Check-Act) Quality Cycle that closes the loop as an integrated framework for quality-planning-information management trio, all of which underscores the robust comprehensive institutional and collegial performance management system.

Figure 3: Electronic Modules of the 3 stages KSU Performance Management System

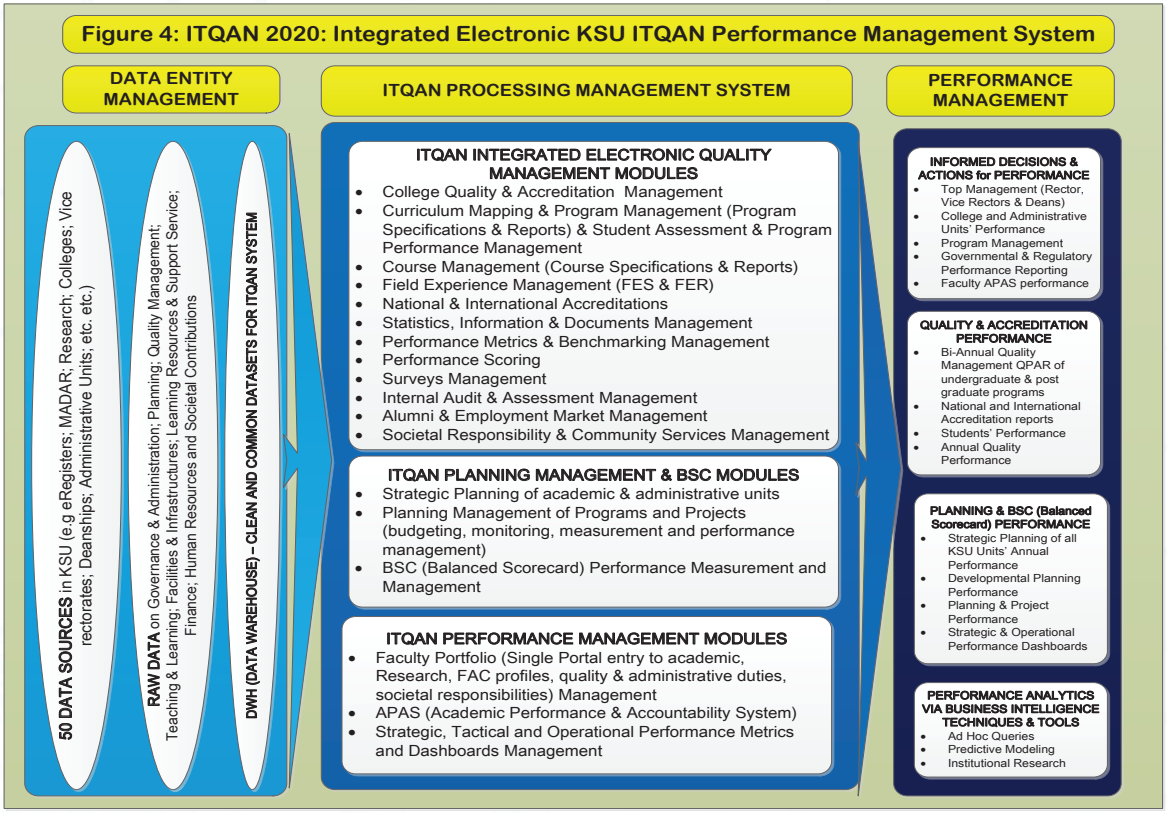


The 3 staged KSU Performance Management System covers all the critical quality & accreditation, planning & performance and information management that underscores an institutional, collegial and programmatic systematic and successful management.

The electronic components of the 3 stages are:

1. **Stage 1 (Self-Study) –** This is where all the basic quality & accreditation functional & operational aspects are staged in the 10 modules encapsulated in the e-Course & e-Program & e-Curriculum Management; e-Surveys, e-Performance Metrics, e-Benchmarking, e-Alumni & Employment Market & e-Faculty Portfolio, all supported by the e-SID (Statistics, Information & Management) leading to the e-Self-Study Report & e-SESR or international e-accreditation.
2. **Stage 2 (Audit & Assessment) –** The e-Internal Audit & Assessment utilizes the e-Performance Scoring module that the assessors and assessed use to score the performance which are incorporated into the e-internal audit & assessment by the KSU Board of Assessors leading to the QPAR (Quality Performance Assessment Report) of the programs. The international accreditation & external reviewers modules are incorporated in the ITQAN + Two targeted for completion by 2020.
3. **Stage 3 (e-Developmental Planning in Strategic Planning Module –** The reports outcome from internal audit & assessment, accreditation or external reviews are used to for developmental planning which are constituted as action plans of the college strategic plan and annual operation plan. The main purpose is to allow for better integration of quality and planning through the action plans which are actioned on, all of which impact on the overall performance management of the programs, colleges and ultimately the institution.

Part 3: Overall System Architecture of ITQAN 2020 Performance Management System Modular Components



The quality, planning & information trio is transformed into the integrated electronic platform of the ITQAN 2020: KSU Performance Management System architecture modular components and configurations (Figure 4) within the 3 main sub-system components as follows:

(1) **Data Entity Management –** The main purpose of this entity is to provide a clean and correct common set of data in the DWH (Data warehouse) to be used for the quality & accreditation management and planning management. These data are sourced, cleaned and validated as a clean and correct common data set for processing in the ITQAN processing management system.

(2) In itself, the **ITQAN Processing Management System** represents the key processing mechanisms of the common datasets inputs from the data entity management. This basically covers the main computerization and computations of all data, statistics used for quality and accreditation management. The crux is the processing of all the EEC-NCAAA and KSU-QMS templates and tables for Course management, Program management, Self-study and accreditation management, SID management, performance metrics & surveys, internal audit and assessment & performance scoring, and alumni and employment market and societal responsibility and community services management.

The components of the ITQAN processing management is comprised of:

- 12 modules of the ***ITQAN integrated electronic Quality & Accreditation Management*** modules which basically is the ITQAN 2020: electronic KSU-QMS that underscores the main processing proponent for quality and accreditation development, monitoring and management of academic units meeting EEC-NCAAA requirements;
- 3 modules of the ***ITQAN Planning Management & BSC (Balanced Scorecard) Module*** for all academic and administrative units' strategic and annual operation planning and developmental planning development, monitoring, management through the BSC approach; and
- 3 modules of the ***ITQAN Performance Management Module*** for the institution, colleges & programs and administrative units performance monitoring and management supporting informed decision making.

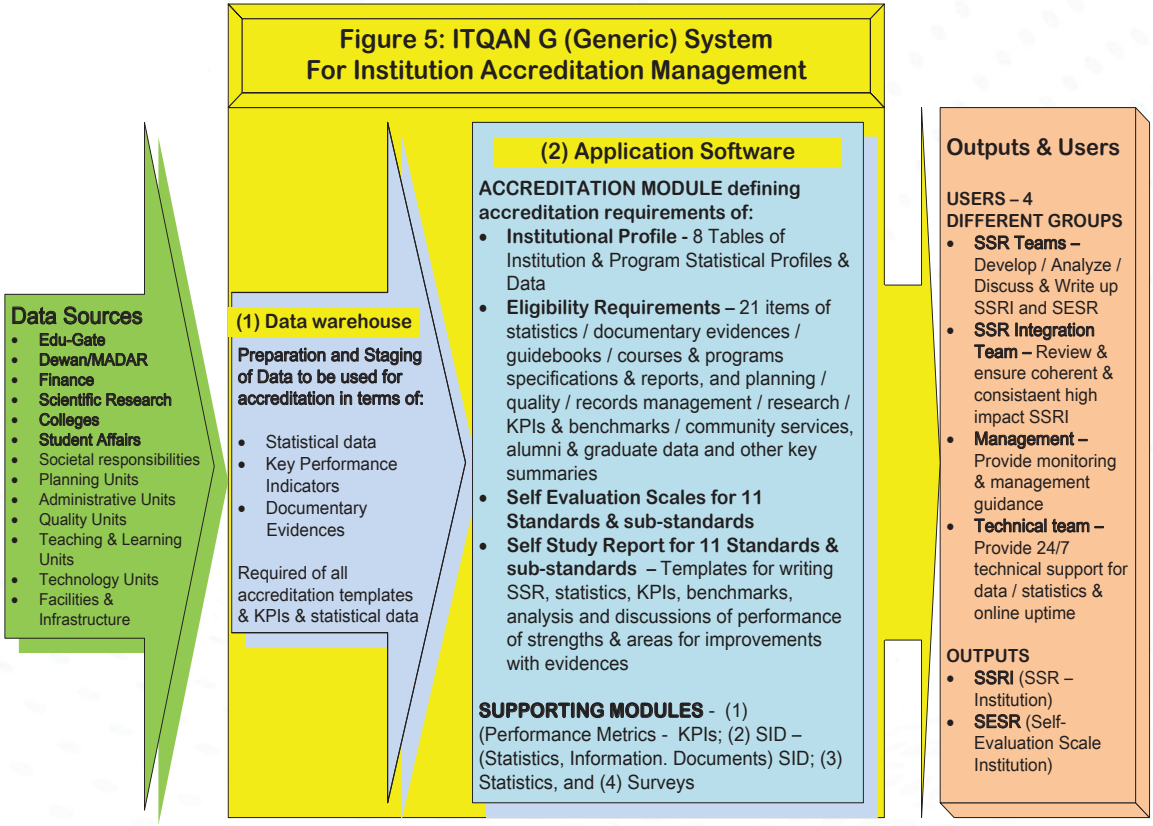
(3) The last **Performance Management Component** represents the main utilization of the data & performance analytics and information from (1) & (2) for:

- ***Informed decisions and actions for performance management*** by all levels of institutional, collegial and programmatic and individual users of data, statistics and information for their informed decision making, with the aim of objectivity as opposed to subjective and heuristic behavioral judgmental decisions.
- ***Quality and accreditation management*** that increases the level of productive efficiencies and effectiveness thus minimizing quality fatigue in the manual based approach, and zeroed in on evidenced based performance management.
- ***Planning & BSC management*** that brings about better development, implementation and management of the strategic plans, annual operation plans and developmental plans based on the recommendations of internal audit & assessment and accreditations. It highlights the imperative that the planning is linked to the quality and accreditation management as part of the quality-information-planning trio.
- Lastly, the ***Performance Analytics and business intelligence tools*** can support in-depth data analysis, modeling and projects which form the core of institutional research affecting informed decision making.

These culminate in the 3 practical aspects of the ITQAN 2020 System applications for:

1. **ITQAN G (Generic) –** For Institutional Accreditation Management
2. **ITQAN + (Plus) –** For Programmatic Quality & Accreditation Management
3. **ITQAN + 2 (Plus Two) –** For Quality / Planning / Information & Performance Management that encompasses ITQAN G & Plus functions.

Part 4 : ITQAN G (Generic) Architectural applications for Institutional Accreditation Management



The ITQAN (G) (Figure 5) is the most generic in the ITQAN 2020 System platform that is used only for the Institutional Accreditation Management. As in all ITQAN System platforms, there are three main operating components of its Inputs / Processing / Outputs & Users as follows:

1. **INPUT Component –** This are common data sources from all administrative units or functional areas responding to all areas of institutional operations and performance for all the ITQAN (G), ITQAN (+) and ITQAN (+ Two) platforms where statistics and data required for the processing and computation of the (a) performance metrics & KPIs (b) templates of statistical data of the institutional & programmatic data (c) statistical data & documentary evidences substantiating continuous improvements and performance meeting the accreditation standards & good practices requirements.

2. **PROCESSING Components –** This constitute the main ITQAN processing system that houses three main components of:
    - **Data warehouse (DWH) –** This main sub-system extracts all statistics & data from the data sources and stage them to be used in the data-mart of the e-QMS application software.
    - **E-QMS application software –** In ITQAN (G), through the QMS-Accreditation module, this addresses the EEC-NCAAA

institutional accreditation requirements in 4 main key areas of ***(a) Institutional Profile -*** 8 Tables of Institution & Program Statistical Profiles & Data, ***(b) Eligibility Requirements –*** 21 items of statistics / documentary evidences / guidebooks / courses & programs specifications & reports, and planning / quality / records management / research / KPIs & benchmarks / community services, alumni & graduate data and other key summaries, ***(c) Self Evaluation Scales*** for 11 Standards & sub-standards, and ***(d) Self Study Report for 11 Standards & sub-standards –*** Templates for writing SSR, statistics, KPIs, benchmarks, analysis and discussions of performance of strengths & areas for improvements with evidences

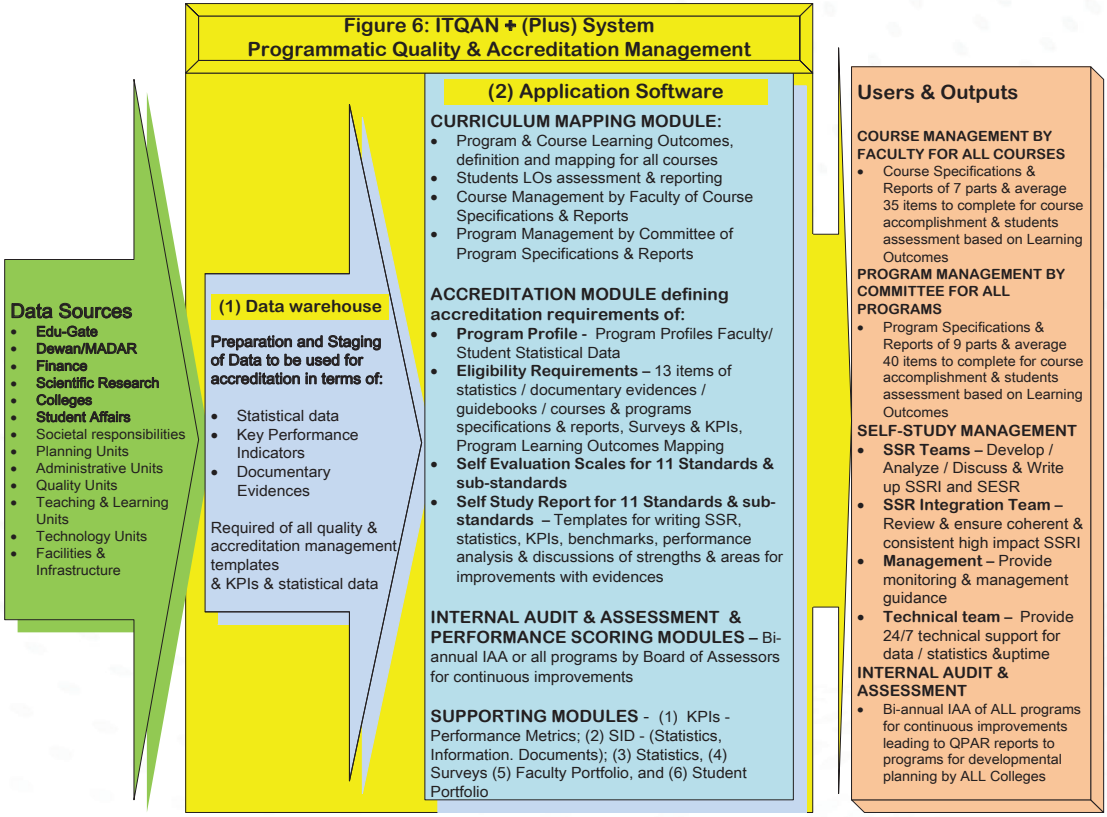
- **Other Supporting Modules –** These are the supporting modules that provide additional functional areas interfaces with the main Institutional QMS-Accreditation seamlessly where the output from these modules are the inputs / outputs to the main QMS-Accreditation module which is the main workhorse for the ITQAN (G). These modules include:
  - ***Performance metrics, Surveys & Statistics modules –*** This addresses all KPIs and performance metrics processing and computation which are used to meet all KPIs and statistical data from the 7 main KSU surveys and all of which are

reported in the Statistics modules, and extracted to the QMS-accreditation KPIs & Statistical templates.

- ***SID (Statistics, Information & Documents) –*** This addresses the documentary evidences or outputs from the QMS-Accreditation modules which are stored here and attached as "linked" documents in the main QMS-Accreditation module.

3. **OUTPUT & USERS Components –** This identifies the two main aspects of the key users and outputs of the ITQAN (G) system as:
   - ***Users –*** There are 4 main groups:
     - ***SSR Teams –*** Develop / Analyze / Discuss & Write up SSRI and SESR
     - ***SSR Integration Team –*** Review & ensure coherent & consistent high impact SSRI
     - ***Management –*** Provide monitoring & management guidance
     - ***Technical team –*** Provide 24/7 technical support for data / statistics & online uptime
   - ***Key Outputs –*** The two main outputs from the ITQAN (G) for institutional performance assessment and management are:
     - ***SSRI*** (Self-Study Report Institution)
     - ***SESR*** (Self-Evaluation Scale Institution)

Part 5: ITQAN + (Plus) Architectural applications for Programmatic Quality and Accreditation Management



The ITQAN (+) (Figure 6) on the ITQAN 2020 System platform is used for:

(a) Programmatic Accreditation Management,
(b) Curriculum Mapping,
(c) Course Management and
(d) Program Management

The above 4 main functional and operational areas are key areas for Programmatic quality and accreditation management that applies across board for all programs in the institution to be utilized by all faculty members and quality & planning committees at the college and program level for student, faculty courses and program's efficiencies and effectiveness accomplishments. This includes the bi-Annual Audit & Assessment of all programs by the KSU-BOAs.

As in all ITQAN Systems there are three main operating components of its Inputs / Processing / Outputs & Users as follows:

1. **INPUT Component –** The common data sources for functional and operational data management of the ITQAN (G) applies to the ITQAN (+).

2. **PROCESSING Components –** This constitute the main ITQAN (+) processing system that houses three main components of:
    - **Data warehouse (DWH) –** As in ITQAN (G), this main sub-system extracts all statistics & data from the data sources and stage them to be used in the data-mart of the e-QMS application software.
    - **E-QMS application software –** In ITQAN (+), the full functional aspect of QMS-Accreditation module comes into play as it addresses the:
        - **EEC-NCAAA programmatic accreditation requirements** in 4 main key areas of ***(a) Program Profile –*** 8 Tables of Program Statistics & Faculty, Graduates, qualifications, KPIs Data**,** ***(b) Eligibility Requirements*** 13 items of statistics / documentary evidences / guidebooks / courses & programs specifications & reports, Surveys & KPIs, Program Learning Outcomes Mapping ***(c) Self Evaluation Scales*** for 11 Standards & sub-standards, and ***(d) Self Study Report for 11 Standards & sub-standards –*** Templates for writing SSR, statistics, KPIs, benchmarks, analysis and discussions of performance of strengths & areas for improvements with evidences

- **Curriculum Mapping Modules -** This is the main module where the following (a) Program & Course Learning Outcomes, definition and mapping for all courses (b) Students LOs assessment & reporting (c) Course Management by Faculty of Course Specifications & Reports (d) Program Management by Committee of Program Specifications & Reports, are defined to determine, assess, record and report the student performance and effectiveness.
- **Internal Audit & Assessment Module (IAA) –** This is the key module where all programs undergo the bi-annual IAA by the KSU-BOAs leading to the QPAR and the developmental planning by the program to address continuous improvements.

- **Other Supporting Modules –** These are the supporting modules that provide additional functional areas interfaces with the main Programmatic QMS-Accreditation seamlessly where the output from these modules are the inputs / outputs to the main QMS-Accreditation module which is the main workhorse for the ITQAN (G). These modules include:
  - ***Performance metrics, Surveys & Statistics and the SID (Statistics, Information & Documents) modules –*** The functional and operational aspects are the same as the ITQAN (G).

- ***Faculty & Student Portfolios –*** This is where the faculty & students overall inputs & outputs performance are captured to encapsulate the faculty & students' educational efficiencies & effectiveness, accomplishments and achievements.

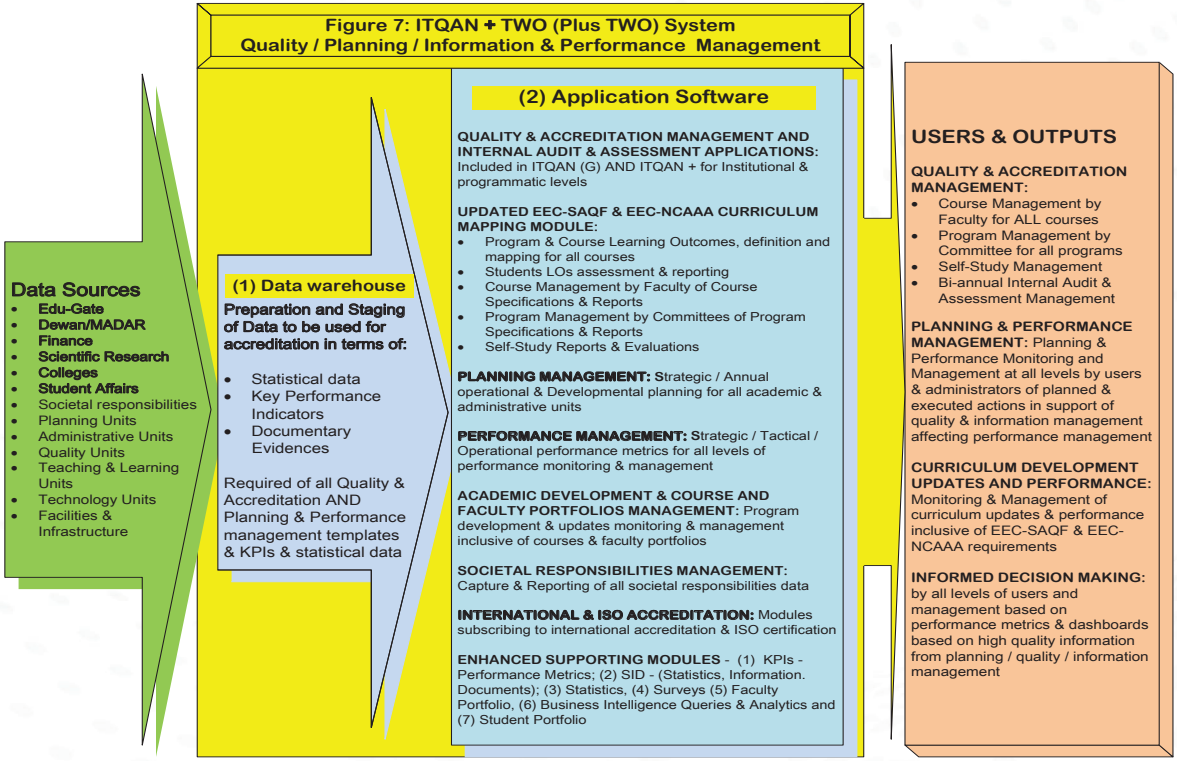
3. **OUTPUT & USERS Components –** This identifies the two main aspects of the key users and outputs of the ITQAN (G) system as:
   - ***Users –*** There are 4 main groups:
     - ***Programmatic Self-Study Teams –*** This encapsulate the key activities of the Committee to Develop / Analyze / Discuss & Write up SSRP and SESRP, Review & ensure coherent & consistent high impact SSRI, monitor & manage the self-study and the ***ITQAN technical team who p***rovide 24/7 technical support for data / statistics & online uptime.
     - ***Faculty –*** The Course Management Module encapsulates the main activities of each individual to develop the Course Specifications (CS) and Course Reports (CR) for each course & section taught reflecting the performance of the students' learning outcomes assessed and attained with plans of actions.
     - ***Program Committees –*** The Program Management Module encapsulates the main activities the Program Committee to develop the Program Specifications (PS) and Program

Reports (PR) for the whole program reflecting the performance of all levels of students learning outcomes assessed and attained with plans of actions.

- ***Board of Assessors –*** The BOAs will audit and assess the program bi-annually leading to the QPAR (Quality Performance Assessment Report) that are used by the programs for developmental planning and continuous improvements and the Vice Rectorate of Academic Affairs to monitor and manage the programs' accomplishments.

- ***Key Outputs –*** The main outputs from the ITQAN (+) used for (a) programmatic monitoring and management of courses & programs and students' effectives and efficiency and most importantly, (b) programs performance audit and assessment accomplishments and achievements and (c) supporting informed decision making of faculty, programs and colleges with key outputs being:
  - Program Specifications (PS) and Program Reports (PR)
  - Course Specifications (CS) and Course Reports (CR)
  - SSRP (Self-Study Report Program)
  - SESRP (Self-Evaluation Scale Program)
  - QPAR (Quality Performance Assessment Report)
  - Developmental Plan

Part 6: ITQAN + 2 (Plus Two) Architectural applications for Quality / Planning / Information & Performance Management



The ITQAN (+ 2) (Figure 7) on the ITQAN 2020 System platform is used for:

(a) Achieving efficient and effective quality and accreditation management at the institutional and programmatic areas of the ITQAN (G) and ITQAN (+) functional and operational areas that also applies to the ITQAN (+ 2).

(b) New application areas to be completed by 2020 are:

•**Planning Management:** Strategic / Annual operational & Developmental planning for all academic & administrative units

•**Performance Management:** Strategic / Tactical /Operational performance metrics for all levels of performance monitoring & management

•**Academic development & course and faculty portfolios management:** Program development & updates monitoring & management inclusive of courses & faculty portfolios

•**Societal responsibilities management:** Capturing & Reporting of all societal responsibilities data

•**International & ISO accreditation:** Modules subscribing to international accreditation & ISO certification

•**Enhanced supporting modules -** (1) KPIs -Performance Metrics; (2) SID - (Statistics, Information. Documents); (3) Statistics, (4) Surveys (5) Faculty Portfolio, (6) Business Intelligence Queries & Analytics and (7) Student Portfolio

As in all ITQAN Systems there are three main operating components of its Inputs / Processing / Outputs & Users as follows:

1. **INPUT Component –** The common data sources for functional and operational data management of the ITQAN (G) and ITQAN (+) applies to the ITQAN (+ 2).

2. **PROCESSING Components –** This constitute the main ITQAN (+ 2)processing system that houses three main components of:
    - **Data warehouse (DWH) –** As in ITQAN (G) and ITQAN (+), this main sub-system extracts all statistics & data from the data sources and stage them to be used in the data-mart of the e-QMS application software.
    - **Quality, Planning, Information and Performance Management Application software –** In ITQAN (+ 2), the functional and operational areas includes the existing ITQAN (G) and ITQAN (+) with new functional operational modules as follows:
        - **ITQAN (G) and ITQAN (+) –** The full functional aspect of eQMS-Accreditation module for quality & accreditation management for both the institution and programmatic are inclusively applied in the ITQAN (+ 2). Within the exiting eQMS-Accreditation Module, the following will be updated:

(a) ***Curriculum Mapping Module inclusive of the Course, Program and Self-Study Modules*** – These are updated to reflect and support both the EEC-NCAAA and new EEC-SAQF in-depth system requirements. This update will also bring about modifications to the templates and statistical data requirements of EEC-NCAAA Course, Program and SSR/SESR requirements.

(b) ***Performance Metrics & KPIs*** – The existing ITQAN (+ 2) set of performance metrics & KPIs will bring about a new set of aligned quality, planning and performance metrics to reflect and support strategic, tactical and operational performance and informed decision making at all levels of KSU and all units.

- **Planning Management –** This addresses the Strategic / Annual operational & Developmental planning for all academic & administrative units' functionality development and planning monitoring and management for all and at all levels of KSU units.
- **Performance Management –** This addresses the Strategic / Tactical /Operational performance metrics at all and for all levels of academic & administrative units' performance monitoring & management that are aligned across board

KSU with dashboards in support of informed decision making and actions.

- **Academic development & course and faculty portfolios management –** This addresses the Vice Rectorate of Academic Affairs needs of Program development & updates monitoring & management that are inclusive of courses & faculty portfolios.
- **Societal responsibilities management –** This addresses the need to capture & report all societal responsibilities activities at all levels and by all units in KSU.
- **International & ISO accreditation –** These modules address the inclusion of international accreditation for colleges and programs & ISO certification of administrative units' quality assurances.

- **Enhanced supporting modules –** The following (1) KPIs - Performance Metrics; (2) SID - (Statistics, Information. Documents); (3) Statistics, (4) Surveys (5) Faculty Portfolio, (6) Business Intelligence Queries & Analytics and (7) Student Portfolio, are all enriched to meet the enhanced functional and operational needs of the ITQAN (+ 2).

3. **OUTPUT & USERS Components –** This identifies the two main aspects of the key users and outputs of the ITQAN (+ 2) system as:
    - **Users –** The 4 main users of (a) Programmatic Self-Study Teams (b) Faculty (c) Program Committees and (d) Board of Assessors are the same as that of ITQAN (G) and ITQAN (+). In addition, because of the integration of quality, planning and information management leading to performance management, the power of data queries and analytics is used by all administrators at all levels for informed decision making and actions, which is part of the KSU Institutional Research Framework.
    - ***Key Outputs –*** The main outputs from the ITQAN (+2) used for (a) quality & accreditation management of courses & programs and students' effectiveness and efficiencies and, (b) well planned and actioned performance accomplishments and achievements management to support informed decision making and actions with key outputs as follows:
        - Program Specifications (PS) and Program Reports (PR)
        - Course Specifications (CS) and Course Reports (CR)
        - SSRI and SSRP (Self-Study Report – Institution and Programmatic)
        - SESRI and SESRP (Self-Evaluation Scale - Institution and Programmatic)

- QPAR (Quality Performance Assessment Report)
- Quality & Accreditation and Planning monitoring and management performance reports
- Strategic, Annual Operation and Developmental Plans
- Strategic, Tactical and Operational Performance Metrics and Management queries, dashboards, routine and ad hoc reports for informed decisions and actions.

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