CONCEPT PAPER NUTECH QUALITY MANAGEMENT SYSTEM

Aim

1. Aim of the paper is to explain concept of quality and associated terminologies, examine focus of regulatory bodies dealing with Quality Assurance of engineering and technology programs including skills courses, study mechanisms adopted by various international universities and recommend a suitable Quality Management System to be followed by National University of Technology (NUTECH).

Introduction

2. State of the art technologies have not only accelerated pace of work but numerous other dimensions of human life have also been affected drastically. Access to knowledge and required lifelong skills has been the basic and fundamental desire of every individual. With ever increasing number of colleges and universities, prime concern of students, parents and other stakeholders revolves around quality of education, being imparted by these institutes.

3. Strenuous efforts have been made by number of organizations, either owned by the Governments or by private entities, to contribute for this noble cause in one way or the other. Formulation of joint platforms to standardize Quality Assurance practices is common, at national, regional and global level. Before getting into role and functions of these organizations, definitions of the word "Quality" and explanation of associated terminologies is given in the ensuing paragraphs.

Quality

4. American Society for Quality (ASQ) defines Quality as **pursuit of optimal solutions contributing to confirmed successes, fulfilling accountabilities** [11]. Andrea Wilger, from National Center for Postsecondary Improvement, School of Education, Stanford University, in a literature review, reports Quality as suitability for the intended Goal or **Fitness for the Purpose** [1]. Quality of a product or service refers to the perception of the degree to which the product or service meet the customer's expectations [10].

Academic Quality Assurance

5. Many definitions of quality assurance in education domain have been reported in the literature. A more comprehensive one has been found in the literature review published by School of Education, Stanford University [1].

"Quality Assurance is a collective process by which the university, as an academic institution, ensures that the quality of educational process is maintained to the standards it has set itself. Through its Quality Assurance arrangements, the university is able to satisfy itself, its students and other stakeholders that:

- a. Courses offered by the university meet the appropriate academic and professional standards.
- b. Objectives of the courses are appropriate.
- c. Means chosen and the resources available for delivering those objectives are appropriate and adequate."

6. Quality Assurance manual of Higher Education Commission (HEC) of Pakistan provides definition of Quality Assurance as "the means of ensuring that informed by its mission, academic standards are defined and achieved in line with equivalent standards nationally and internationally, and that the quality of learning opportunities, research and community involvement are appropriate and fulfill the expectations of the range of stakeholders" [2]

Accreditation and Quality Assurance

7. As described by the ABET, Accreditation is a review process to determine if educational programs meet defined standards of quality [4]. Pakistan Engineering Council (PEC) Manual of Accreditation explains Accreditation as a process of Quality Assurance by which a program is evaluated for conformance to prescribe standards and to obtain assurance that institution has adopted a desired quality assurance framework [17]. Accreditation has also been described as a process by which an institution qualifies for a certain status that may be a permit or a license to run a particular program in accordance with the pre-defined standards, set by the accreditation body. Generally, the outcome of the accreditation process is Yes or No [8].

8. However, Quality Assurance has been described as a form of management that relies upon following dual approach of driving an organization towards excellence, while conforming to established standards and laws [9].

Quality Control and Quality Assurance

9. Quality Control is focused towards end product and aims at defect identification, instead of defect prevention that is the primary objective of Quality Assurance. Quality Assurance comprises administrative and procedural activities implemented in a quality system so that requirements for a product, service or activity are adequately addressed. In the discourse of higher education, Quality Assurance is the systematic monitoring of academic processes and an associated feedback loop to incorporate improvements in the form of Continuous Quality Improvement (CQI).

Quality Audit and Accreditation

10. International Organization for Standardization (ISO) defines Quality Audit as a three step process, aimed at (a) checking suitability of planned quality procedures in relation to stated organizational objectives (b) checking conformity of the actual activities with the plans and (c) checking effectiveness of the activities in achieving the stated objectives [8]. Literature published by European Association for Quality Assurance in Higher Education (ENQA) in the form of occasional papers defines Quality Audit as an evaluation of the strengths and weaknesses of the quality mechanisms established by an institution itself [13].

11. The main difference between Quality Audits and Accreditation is that audits focus on institution's own standards and goals and its success in meeting those standards while accreditation process is focused at standards external to the institution, usually national published standards and an assessment of the institution in terms of those standards.

Focus of International and National Regulatory Bodies

12. **Quality Assurance Agency (QAA), UK,** established in 1997, is responsible for all kinds of regulatory processes. QAA principal concerns in relation to Quality Assurance are that (i) an institution has sound internal quality assurance systems and procedures for the assurance of quality and standards; (ii) procedures are applied effectively at subject level to ensure the quality of individual programs; (iii) effective means of reviewing the quality of programs exist at the institution and system facilitates continuous quality improvement;

(iv) Accurate, complete and reliable information about the quality of the university's programs and the standards of its awards is available to all stakeholders [3].

13. Accreditation Board for Engineering and Technology (ABET), USA, a nonprofit, ISO 9001 certified organization, undertakes accreditation of colleges and universities programs in applied and natural science, computing, engineering and engineering technology. ABET Accreditation process aims at ensuring that a program offered by the university meets the quality standards of the profession for which that program prepares graduates. A program is accredited against defined criteria, intended to foster the systematic pursuit of improvement in the quality of engineering education [4].

14. **European Quality Assurance Agency (EQAA)** is functioning in accordance with standards and guidelines, developed through Bologna Process. EQAA accords priority to development and improvement of quality culture within HEIs by stimulating and encouraging improvement of quality of teaching, learning, research and other activities at HEIs [14].

15. European Association for Quality Assurance in Higher Education (ENQA) is an umbrella organization which represents quality assurance organizations from the European Higher Education Area (EHEA) member states. ENQA encourages co-operation in the field of quality assurance in higher education and distributes information and knowledge among its members / stakeholders in order to develop and share good practices [18].

16. **Quality Assurance Agency (QAA) of HEC, Pakistan** was established in 2005 to promote, enhance and assure quality of higher education in the country. QAA is a policy making and monitoring organization, responsible for development of practical guidelines, implementation of systematic procedures to achieve conformity with best international practices and competitiveness at institutional and program level. Further details are attached as **Appendix "A"**.

17. **Pakistan Engineering Council (PEC)**, established through an Act of the Parliament on January 10, 1976, is responsible for the regulation of engineering profession and education in Pakistan. PEC interacts with the Government, both at the Federal and Provincial level by participating in Commissions, Committees and Advisory Bodies. PEC is a fully representative body of the engineering community in the country to facilitate and regulate working of professional engineering bodies. Main functions include registration of engineers, consulting engineers, constructors/operators and accreditation of engineering programmes offered by universities/institutions, ensuring and managing of continuing professional development. Further details are attached as **Appendix "B"**.

18. **National Computing Education Accreditation Council (NCEAC)** is a recognized accreditor of bachelor level computing degree programs in Pakistan. NCEAC has been established by HEC in 2005 to ensure the quality of computing degree programs and look after the intellectual development of students interested in pursuing the computing profession.

19. **Pakistan Medical Commission (PMC)**, established in Sep, 2020 through an act of Parliament, is responsible to regulate and control medical profession, establish a uniform minimum standard of basic and higher medical education and training and recognition of qualifications in medicine and dentistry.

20. **National Technology Council (NTC)**, established in September 2015, is responsible to carry out accreditation and certification of all 4 year programs at Bachelor level leading to technology degrees over a span of 16 years of academic learning. Engineering Technology education curriculum has been aligned with the guidelines of HEC/ NTC to realize Continual Quality Improvement culture. Further details are attached as **Appendix "C"**.

21. **National Vocational and Technical Training Commission (NAVTTC)** established in 2005, is responsible to regulate and promote vocational and technical training in the country. By virtue of Act of 2011, NAVTTC has been empowered to set up an internationally acceptable accreditation system to oversee the growth and quality of TVET in Pakistan. Accreditation and Certification (A&C) Wing of NAVTTC is tasked to evolve procedures for quality assessment of TVET, specifically to lay down and articulate the criteria for assessment of quality. Further details are attached as **Appendix "D"**.

Quality Assurance related Practices at International Universities

22. During literature review, Quality Assurance mechanisms of top ranking world universities were studied. Salient points of the existing practices are described below:-

a. University of Oxford

 Frame work for the governance of quality assurance at university of Oxford integrates activities at all levels that includes university, division and department.

- Departmental Reviews, conducted jointly by the divisions and Education Committee on six yearly basis, are a formal part of University's quality assurance system and help the university to meet wide range of its obligations under the UK Quality Code.
- Quality handbook of the university focuses on twelve major areas of quality assurance or quality enhancement, seen as being of major importance to any faculty/department. It includes admissions, induction, course design, approval, monitoring and review, student feedback, student complaints and appeals, statistical information, external input, quality enhancement in learning and teaching, monitoring of teaching, postgraduate research degrees, collaborative provision and placement learning.
- External Quality Assurance system at Oxford is based on High Education Reviews (HER) program. University has to submit Self-Evaluation Document and student written submission by student union to Quality Assurance Agency (QAA).

b. Cambridge

- Cambridge University Quality Assurance procedures provide a framework within which its institutions can examine and enhance their teaching activities.
- The Education Quality and Policy Office is responsible for three key areas; namely Quality Assurance, Enhancement of teaching and learning, and Student health and wellbeing.
- Local Quality Assurance includes faculties and departments which are responsible for the quality assurance of the courses and curriculum.
- Annual Program Reviews are conducted to monitor and review the programs by the Quality Managers through student survey data and external examiner reports.

c. **MIT**

• Committee on Undergraduate Program (CUP) is overall responsible to supervise conduct of undergraduate education.

- CUP encourages experimental innovation and ensures conformance of educational goals with educational standards of MIT.
- CUP supports, encourages and monitors the development of new innovative subjects.
- Committee on Academic Performance (CAP) is responsible for the academic performance of undergraduate students.
- MIT Audit division undertakes audit of academics, research and related admin processes. Representatives of the audit division identify the areas which need any improvement during the evaluation process.

d. Stanford University

- Committee on Undergraduate Standards and Policy (C-USP), answerable to Academic Council, is responsible to formulate policy governing the substance and processes of undergraduate education.
- Stanford commitments to quality is reflected by its Criteria for Review (CFR).
 CFR consists of core standards, covering all aspects of institutional purpose, educational objectives, sustainability and quality assurance.
- University employs a set of quality-assurance processes in both academic and non-academic areas, including periodic program review, assessment of student learning, and other forms of ongoing evaluation.
- During review process, departments and programs are asked to complete selfstudies that include curriculum assessment, feedback from current and former students, national rankings data (if available) and research grant volume etc.
- C-USP, if required, may establish additional standing subcommittees to look after specific areas like Evaluation and Improvement of Teaching and Academic Standing of the degree programmes.
- All stakeholders including alumni, employers, practitioners, students, and others designated by the institution, are regularly involved in the assessment and alignment of educational programs.

• Internal Audit office also exists at Stanford to undertake financial, operational and information technology audits in accordance with approved policies.

e. Technology University of Munich

- Quality Management System at Technology University of Munich (TUM) is aimed at designing, implementing and enhancing degree programs, to make them not only attractive and challenging but also internationally competitive.
- System covers the entire degree program life cycle and all related academic processes, from introduction of a program to its continuing operation, evaluation, and optimization.
- Academic processes that are relevant to the quality of teaching and learning at TUM are steered by means of "Pan-Do-Check-Act" (PDCA) feedback control cycle.
- One of the key components of quality management at TUM is its central evaluation system, which examines studies and teaching on three different levels; individual course, entire degree program and individual school / college level.
- Evaluation involves orderly collection and analysis of data for the review and improvement of all aspects of study and teaching at TUM.
- A Quality Management Circle in each of TUM's schools and colleges is responsible for analyzing evaluation results. This committee performs an analysis of the strengths and weaknesses of the evaluated unit on the basis of evaluation results and agrees upon improvement measures.

Washington Accord

23. Washington Accord, initially signed in 1989 by ABET and engineering profession representatives' bodies of five other countries (UK, Canada, Ireland, Australia and New Zealand) is an international agreement among bodies responsible for accrediting engineering degree programs in each of the signatory countries. It grants considerable equivalency to programs accredited by those bodies, and recommends that graduates of accredited programs in any of the signatory countries be recognized by the other countries as having met the academic requirements for entry to the practice of engineering.

Sydney Accord

24. Sydney Accord, signed in 2001, is an international agreement among bodies of seven different countries responsible for accreditation of Engineering Technology academic programs. The signatories have exchanged information, and examined their respective processes, policies and procedures for granting accreditation to engineering technology academic programs. The signatories recognize the substantial equivalence of such programs in satisfying the academic requirements for the practice of engineering technology. Through the Sydney Accord, it was concluded that all such programs are comparable.

Quality Management Strategies

25. Based on the nature of service / product and associated processes, following well known quality management strategies have been adopted by various organizations:-

a. Plan-Do-Check-Act (PDCA) is a four step feedback control method to improve any process. This management method has been successfully used at number of organizations / higher education institutes to steer and improve academic processes [10, 11, 12].



PDCA Control Cycle

(Figure taken from Technical University of Munich website)

b. **Define, Measure, Analyze, Improve, and Control (DMAIC)** is a quality strategy used to improve processes. It is an integral part of a Six Sigma initiative, but in general can be implemented as a standalone quality improvement procedure [11].



DMAIC Methodology (Figure taken from American Society for Quality website)

- c. Total Quality Management (TQM) is a sophisticated management philosophy, not limited to one specified approach in doing the job. It is a continuous state of improvement that includes the participation of everyone in the organization, and represent continuous searching for the best ways to improve the organization and to reach the perfection. Some characteristics of TQM are considered to be fundamental, like customer preference, communication, consistent improvement, restorative measures, the organizational structure of network type, creativity, IT, organizational culture, team and future orientation [19].
- d. **Quality 4.0** is a term that relates to the future of quality and organizational excellence within the context of Industry 4.0. Quality professionals need to adapt to technological innovations, modern data analytics and entrepreneurships ecosystem. Process adjustment and optimization is achieved through digitization and adaptive learning. Quality 4.0 is a paradigm shift from production to system design and integration with the business world.

NUTECH SWOT Matrix

26. Prior to proposing any form of Quality Management system for NUTECH, SWOT analysis of the university has been carried out. Objective of the exercise is to facilitate decision making and follow the right course.

Strengths		Weaknesses	
a.	Promising leadership	a.	Limited Human Resource
b.	Proactive approach to absorb latest academics trends and associated modern technologies	b.	Financial Limitations
c.	Central Location	c.	Limited infrastructure
d.	Upcoming commodious main campus	d.	Evolving systems / setups
e.	Support and trust of the Government	e.	Lesser presence in the market / external community
f.	Well-equipped labs and qualified faculty		
g.	An all-encompassing academics opportunities (level 1 to 8) with Qualification Awarding Body (QAB) status		
h.	Well integrated Academia Industry linkages		
Opportunities		Threats	
a.	Absorb latest international practices into university processes	a.	Lukewarm response of stakeholders (e.g. industry, employers etc)
b.	Collaborate with the national / international organizations / industry	b.	Existence of strong competitors
C.	Offer innovative, state of the art technology programs and skill courses		
d.	Adopt a leading role towards transformation of national industry		

SWOT Analysis

27. Strong relations between strengths and opportunities suggest favorable conditions for the university. Situation provides good opportunity to make coordinated efforts and formulate a comprehensive quality management system so that all kinds of educational initiatives, community services and degree programs offered by the university are not only challenging but also attractive and NUTECH is able to serve the society with proud.

NUTECH Quality Management System

28. Technological advances in the form of Fourth Industrial Revolution (IR 4.0) are enabling significant changes in industry, where technology is not only increasing resource and time efficiency, but also changing the way people work. NUTECH, established as *University for Industry* aims to adopt a leading role in transformation of national industry by addressing the emerging educational needs through educational offerings in collaboration with industry, regulatory bodies and other stakeholders.

29. NUTECH will establish its quality management system by following the best practiced quality management systems of world's leading technology universities. It will have a comprehensive system of regular academic audit, review, upgradation and improvement of learning, teaching and all related tiers of knowledge eco-system. The foundation of NQMS is laid on the three fundamental pillars of quality standards that is international quality standards of academic, industry and character development. At NUTECH quality will be defined and practiced as pursuit of optimal solutions of the challenges of best international standards of academics, industry, character and ethics while contributing to confirmed successes and fulfilling accountabilities. Hence quality will imply suitability / fitness for the purpose. At NUTECH quality assurance will be the management system developed on the lines of best international practices of world's leading technology universities. Quality assurance will drive NUTECH towards excellence while conforming to established national laws and high-quality international standards. NUTECH Quality Management System (NQMS) has been derived from the NUTECH Vision, Mission and Guiding Principles, as described below, with the help of underlined words: -

- a. Vision. To be a <u>world-class</u> technology-driven research university <u>committed to</u> <u>best serve</u> society and industry through <u>purposeful</u> education, research and innovation.
- b. Mission. To advance knowledge and educate students in science, engineering, technologies and other areas of scholarship so as to grow knowledge economy and <u>develop leaders</u>, professionals and skilled workforce embodied with the spirit <u>of discovery</u>, innovation, entrepreneurship, social responsibilities and <u>ethical practices to best serve the society and industry</u>.
- c. **Guiding Principles.** Following three guiding principles provide foundation for a comprehensive Quality Management System to be in place at NUTECH: -
 - (1) NUTECH will establish a <u>comprehensive system of regular academic audit</u>, <u>review</u>, <u>upgrade</u> <u>and improvement of learning</u>, <u>teaching</u> <u>and all tiers</u> <u>of</u> <u>knowledge eco-system</u> on the lines of best practices of leading international academic institutions.
 - (2) <u>All types of academic, skills and research programs</u> will be designed and developed to advance knowledge for the betterment of humanity, society and industry, and all such initiatives <u>be aligned with Sustainable</u> <u>Development</u> <u>Goals.</u>
 - (3) <u>NUTECH will advance its academic, skills and research pursuits aligned with</u> the needs of national industry in particular and regional and international industry in general.

Motto of NQMS

30. NQMS motto is developed as an enlightenment for initiating future pursuits for excellence in academics, research and character development. In English, the Motto is **"Finest Character Development with Best Education"**. In Urdu "على تربيت بتهرين تعليم ک ے ساتھ". To act on its motto NQMS will have systems of academic quality assurance, character quality development, accreditation of academics along with support systems and character building, academics and character quality control, academics and character quality audit etc.

31. In the light of university vision and its motto NQMS will develop and establish comprehensive quality system of outcome-based education (OBE) in academics and

outcome-based character development (OBCD) related to character at the university. As part of OBE and OBCD, NQMS will work on following aspects: -

- a. It will design and develop "Key Performance Indicators (KPIs)" in academics and "Key Character Indicators (KCIs)" in character development.
- b. It will develop quality assessment process of Course Learning Outcomes (CLOs) in academics and Course Character Outcomes (CCOs) in character development.
- c. For all types of courses, academics, research and skills education programs, NQMS will define, develop and implement quality "Program Education Objectives (PEOs)" related to academic courses. It will design, develop and implement quality "Program Character Building Objectives (PCBO)" separately for all such types of programs.

32. For the success of NQMS, OBE and OBCD systems, quality professionals will be trained to adapt to technological innovations, modern data analytics and entrepreneurships ecosystem. Process adjustment and optimization will be achieved through digitization and adaptive learning.

Objectives of NQMS

33. NQMS concept revolves around establishing a comprehensive system of quality management at NUTECH with following objectives: -

- a. Regular academic audit, review, assessment, upgrade and improvement of all tiers of character and knowledge eco-system.
- b. NQMS will ensure that all types of academics, professional, ethical, moral interests/concerns of all stakeholders, particularly graduates and industry are addressed promptly in a transparent and professional manner.
- c. NQMS will ensure that all academic and character development initiatives, from National Vocational Qualification Framework (NVQF) levels 1 to 8, and associated support processes contribute positively towards the spirit of personality development and character building so as to achieve desired conformity with the Vision, Mission and Guiding Principles of NAV at NUTECH.

Scope of NQMS

34. The scope of NQMS covers the entire spectrum of NUTECH activities related to infrastructure, finance, management, human resource, academics, character building and all aspects of students' campus life. From its scope the main impetus of NQMS will revolve around the process for ensuring the attainment of objectives and outcomes of academics and character building programs. NQMS will apply to all types of educational and character building initiatives undertaken at NUTECH involving faculty, support staff, researchers and students, regardless of the mode of ethics, study and place of delivery.

Elements of NQMS

35. NQMS comprises of the following three fundamental elements: -

- a. Academics: It covers all academic initiatives ranging from higher education (levels 6-8) to technical and vocation education and training (levels 1 to level 5) and associated processes. Prime focus of all the research and allied support activities at NUTECH will always be aligned with its vision, that is, benefit industry in particular and society in general. NQMS will ensure quality in all types of examinations, assessments and certification processes at NUTECH related to academics, skills, technical and professional education.
- b. Industry: It covers all forms of best quality technical and professional knowledge standards being practiced at the national, regional and international industry as key attributes of HR products of NUTECH and aimed at achieving one or more of the following objectives: -
 - (1) Students' knowledge, capability and competencies on industrial processes and resolution of related issues in the industry.
 - (2) Establishment of state-of-the-art industry standards based knowledge mechanism in the engineering and technology departments, technical and vocational education and training institutes, research centres and labs at NUTECH for the satisfaction of the industry.
 - (3) Students learning practices on industry standards to develop abilities at NUTECH for provisioning of quality solutions to the industry in future. The future HR support for industry will be developed at NUTECH in the form of "RIGHTLY" educated, qualified and competent engineers, technologists and

skilled workforce, able to prepare technical documents, concept papers etc and undertake conceptual design/prototype products development based projects in the industry.

- c. **Character:** It covers all forms of initiatives aimed at personality development, ethical values promotion and character building of all NUTECH team members including students, researchers, faculty, support staff and leadership. The system will be developed and executed in complete conformity with the divine guiding principles for developing ethical and moral attributes. Following aspects constitute vital part of NQMS to achieve desired personality traits and character virtues in all team members of NUTECH: -
 - (1) Always put in efforts with the best of abilities, selflessness, motivation etc and with unwavering trust on ALLAH SWT. Strong belief in the link between sincere effort in the present and pay-off in the longer term here and in the world hereafter, overcoming and persevering through, and learning from, setbacks when encountered.
 - (2) Learning and habituation of positive moral attributes, known as "virtues", that include courage, honesty, generosity, integrity, humility, practice of justice and other similar universal character traits.
 - (3) Acquisition of moral and ethical confidence and the ability to practice truth, honesty and exhibit constructive attitude towards primary official responsibilities as the way of life at NUTECH in terms of intellectual, academic and professional discharge of duties.
 - (4) Absolutely clear understanding of long-term commitments which frame the successful and fulfilled life in terms of religion, faith, family, vocation, community and society.

Principles of NQMS

36. Quality assurance principles of NQMS will be developed as per globally accepted best practices for top quality education at NUTECH. Conformity with the best international practices and guidelines of the regulatory bodies will be central to the NQMS design. NQMS will be based on the following principles: -

a. **Leadership Commitment (LC).** NQMS will emphasize upon leadership's commitment to quality as an integral part of the organizational strategy.

NUTECH leadership will establish unity of purpose, direction and create conditions in which people will be engaged in achieving the quality objectives of the university.

- b. Focused Stakeholders' Satisfaction (FSS). Understanding the current and future needs of all stakeholders at NUTECH will contribute to the sustained success of the university. Primary focus of NQMS will be to address stakeholders' concerns on priority and strive to exceed their expectations.
- c. Team Work (TW). Competent, empowered and engaged NUTECH members will enhance University capability. In order to tap creative energies and improve motivation, NQMS will stress upon participation of all employees, students and researchers in the work related decisions and improvement activities. Empowerment, recognition and knowledge enhancement will be central to NQMS design to facilitate systematic engagement of employees, students and researchers in achieving the objectives of the University.
- d. Well Integrated Process Approach (WIPA). Efficient management of NUTECH system of inter-related processes will be done to improve University's efficiency. Desired results will be achieved more efficiently by managing activities and related resources as inter-related processes. Main focus will be on the approach for effective resource utilization, predictable outcomes, continuous improvements etc. Performance optimization will be done by understanding the processes, resources, outcomes, controls and interactions at all levels.
- e. Continuous Improvement (CI). Continuous improvement will be mandatory for the betterment of all the systems at NUTECH to maintain current performance, adapt to changes/technological advancements and create new opportunities. It will enable enhanced focus on root cause investigation, followed by corrective actions. Continual improvement will drive NUTECH to be both analytical and creative in finding ways to become more competitive and more effective at meeting stakeholders' expectations.

- f. Evidence Based Effective Decision Making (EED). Facts, evidence and data analysis will be done for greater objectivity and confidence in decision making to achieve desired results. NQMS will require continuous collection and analysis of data in order to improve decision making accuracy, achieve consensus and allow prediction based on past trends.
- g. Relationship Management (RM). Relationship management with the stakeholders will of prime importance in NQMS. Sustained success will be achieved through well managed relationships with the stakeholders and their utilization towards performance optimization.

Recommendation

37. Forgone in view, approval of proposed NUTECH Quality Management System (NQMS) concept along with the above mentioned Motto, Aims, Scope, Elements and Principles is solicited, please.

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