Implementing Quality Assurance in Universities/ HEIs through Ensuring and Promoting Stakeholders’ Trust

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Author’s Introduction

- **Assistant Professor, Department of Civil Engineering, NED University of Engineering & Technology, Karachi-Pakistan**

- **PhD Supervisor Approved by Higher Education Commission (HEC) Pakistan**

- **Principal Investigator, HEC Research Project ‘Use of FRPs for Strengthening and Repair of Steel Bridge Members’**

- **Co-Principal Investigator, HEC Research Project ‘Development of Bio Concrete from Micro Organisms’**

- **Research Interests**
  - Improvement in Quality Assurance Process in Universities/HEIs
  - Internal & External Quality Auditing
  - Evaluation of Academic Programs
  - Novel Techniques in Cement and Bio Concretes
  - Strengthening and Repair of Steel Bridges

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Author’s Introduction

- Ag. Director, Quality Enhancement Cell (QEC), NED University of Engineering & Technology, Karachi-Pakistan
- Ag. Quality Management Representative (QMR)
- International Register for Certified Auditors (IRCA) Certified Lead Auditor
- Certified Procurement Professional approved by Sindh Public Procurement Authority (SPPRA) Pakistan
- Trainer/ Resource Persons
  - Quality Assurance in Higher Education
  - ISO 9001:2015 Standards
  - PEC Out-Come Based Education (OBE) System
  - HEC Self-Assessment (SA) Mechanisms
  - Institutional Performance Evaluation (IPE)
  - Public Procurement Processes
- Technical Expert for Civil Engineering Works, Anti-Corruption Department, Govt. of Sindh

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NED University Key Stats

- Founded in 1921 as Engineering College
- Upgraded as a University in March 1977
- Certified for Conforming to International ISO 9001:2015 Standards

- Member of
  - International Network of Quality Assurance Agencies in Higher Education (INQAAHE)
  - Asia Pacific Quality Network (APQN)
  - Pakistan Network of Quality Assurance in Higher Education (PNQAHE)

- NED University offers
  - 29 Undergraduate programs
  - 44 Masters degree programs
  - 17 PhD programs
Implementing Quality Assurance in Universities/ HEIs through Ensuring and Promoting Stakeholders’ Trust

- Introduction
- Problem Statement
- Methodology
- Results and Discussions
- Conclusion
- Acknowledgements
Challenge for Researchers!

What is Quality in Higher Education (HE)?

Definitions and interpretations depend upon the views of four major groups of stakeholders

a) Funding bodies, community, taxpayers as providers
b) Students as users of products
c) Employers as users of outputs of the products
d) Academics and Administrators as employees of the HE Sector

(Bobby, 2014; Kemenade et al, 2015)
Challenge for Researchers!

What is Quality in Higher Education (HE)?

- Students associate quality with the quality of the institution, programs and courses

- Employers’ focus for quality is the final product in terms of qualified employees

(Schindler et al, 2015)
Challenge for Researchers!

What is Quality in Higher Education (HE)?

Two strategies for defining the quality in higher education

a) To classify the quality to become purposeful, exceptional, transformative and accountable

b) To identify through specific indicators such as students’ performance, institutional support, customer satisfaction and feedback, leadership skills, engagement and trust building of people and process-based approach

Introduction

**Quality in HE in Pakistan!**

- By the start of this century, the Quality in Higher Education sector of Pakistan started attracting the attention of the Higher Education Commission (HEC) and Universities/HEIs

- At the national level, the HEC-Pakistan established its **Quality Assurance Agency (QAA)** in 2005

- The QAA introduced/implemented QA mechanisms through
  - Internal Self-Assessment of Academic Programs
  - External Program Reviews/Accreditations
  - Institutional Performance Evaluation (IPE)
  - Guidelines to start new Master’s and PhD programs

(Batool & Qureshi, 2005)
Problem Statement

Key Challenge of Quality in Higher Education!

How to Implement
Quality Assurance in Universities/HEIs through Ensuring and Promoting Stakeholders’ Trust???
Methodology

- NED University of Engineering and Technology, Karachi has been certified by the Lloyd’s Register Quality Assurance (LRQA) for conforming to requirements of the ISO 9001:2015 Standards for developing and implementing a Quality Management System (QMS)

- The university has developed a Quality System Procedure (QSP) for Internal Quality Auditing (IQA) as clause 5.2 of the ISO 9001:2015 Standards

  (NED/QSP 12/05, 2017)
In the present study, the Internal Quality Auditing (IQA) System in NED University of Engineering and Technology is used to implement, improve and evaluate the QA practices and procedures through involvement of stakeholders.

The selected stakeholders (academics and administrators) i.e. auditees include:
- Deans of Faculties
- Chairpersons of Academic Departments
- Heads of Non-Academic Departments

The Internal Quality Auditing (IQA) is a University-wide activity carried out twice a year and is applicable to academic and non-academic functions of all departments included to the QMS.
The IQA activity starts with the audit plan mentioning the audit teams, details of audits, days and timings of the audit.

In order to ensure transparency and fairness as well as to avoid the conflict of interest, the auditors are not assigned to audit departments they belong to.

The plan is prepared by the QEC, approved by the University Leadership and is shared with the auditees at least one week prior to the proposed audit.

The Quality Enhancement Cell (QEC) is responsible for planning, scheduling, execution and reporting on quality audit.
The audit is carried out by teams of the Trained Internal Auditors based on their experience and professional skills. The auditors are generally faculty members and officers from academic and non-academic departments and have undergone ISO certified trainings.

The results of 32nd Internal Quality Audit (IQA) conducted in April 2018 have been used as the basis for initiating and implementing the corrective and mitigation actions.

The outcomes of the corrective and mitigation actions are cross-checked with the results of the 33rd IQA held subsequently in October 2018 in order to see the audit effectiveness in terms of improvements.
## Audit Plan of 32nd IQA

**Audit Plan of 32nd IQA held in April 2018**

| Team 01: Dr. Asif Ahmed Shaikh, Dr. Faraz Akbar, Ms. Saima Kashif (24/04/2018) |
| Examinations Department | Medical Department | Urban & Infrastructure Engg |
| Dean (CPL) & Dean (ECE) | Physics / Chemistry | Mathematics |

| Team 02: Dr. Farooq Hassan, Dr. M. Ali Memon, Ms. Nazia Sami (24/04/2018) |
| NED Academy | Civil Engineering | Earthquake Engineering |
| Materials Engineering | Chemical Engineering | Directorate of Planning & Project |

| Team 03: Dr. Muhammad Wasif, Syed Kabeer Ehsan (24/04/2018) |
| Dean (CPE)/ (MME)/ (ISH) | Audit Department | Petroleum Engineering |
| Directorate of Finance | Comp. Sc. & Software Engg | Directorate of Services |

| Team 04: Dr. M. Aslam Bhutto, Dr. Rashid A Khan, Ms. Sidra Masood (25/04/2018) |
| Student Affairs Department | Mechanical Engineering | Information Technology |
| Textile Engineering | Electronic Engineering | Computer & Info-Sys Engg |

| Team 05: Dr. Riaz Uddin, Mr. M. Nasir, Syed Imran Ali (25/04/2018) |
| Dean (AMS) | Biomedical Engineering | Food Engineering |
| Architecture & Planning | Directorate of Ind. Liaison | ORIC |

| Team 06: Dr. Saira Faisal, Mr. Haseeb Ansari, Engr. Danish Majeed (25/04/2018) |
| Procurement Cell | Electrical Engineering | Polymer & Petrochemical Engg |
| Quality Management Cell | Automotive & Marine Engg | Industrial & Manuf. Engg |

| Team 07: Syed Basit Ali, Dr. Zahoorul Hussain, Dr. Sana Muqeeem (25/04/2018) |
| Registrar Office | Environmental Engineering | Metallurgical Engineering |
| Engr. Abul Kalam Library | Vice Chancellor's Secretariat | Humanities |
# CMAR Specimen

**NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY**

## CORRECTIVE / RISK MITIGATION ACTION REQUEST

<table>
<thead>
<tr>
<th>CMAR #: 06-32</th>
<th>Date: 25-04-2018</th>
<th>Internal Audit #: IQA 32/18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Department Audited:</strong> Electronic Engineering</td>
<td><strong>Name of Auditee:</strong> Prof. Dr. S.M. Usman Ali Shah</td>
<td><strong>Name of Auditor:</strong> Dr. MA Bhutto</td>
</tr>
</tbody>
</table>

**NON-CONFORMANCE:**
Some 3 CH courses, eg. EL-306; have course plans based on 45 lectures while some others, eg. EE-121 based on 48 lectures. This needs uniformity and corrections.

**GRADE:**
“RC”

**REF. CLAUSE (S):**

**REASON AND CORRECTIVE / RISK MITIGATING ACTION DECIDED:**
(To be filled by the Auditees)

**Reason:**
Some 3 credit hour courses have course plans based on 45 lectures and some others were based on 48 lectures.

**Corrective / Risk Mitigating Action Decided:**
Course plans were made uniform based on 45 lectures.

**Name of Person Responsible for Implementation:**
CS and AC

**Target Date:** May 23, 2018

**CMAR FOLLOW UP:**

**STATUS OF IMPLEMENTATION / EFFECTIVENESS:**

<table>
<thead>
<tr>
<th>Date of Follow Up:</th>
<th>Implementation Effectively Completed: [ ]</th>
<th>Implementation Completed but not Effective: [ ]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Implementation not Completed, more time is needed: [ ]</td>
<td></td>
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</tbody>
</table>

**Remarks (If not implemented):**

<table>
<thead>
<tr>
<th>CMAR Closed:</th>
<th>CMAR Not Closed, Date Extended:</th>
<th>Next Target Date:</th>
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<table>
<thead>
<tr>
<th>New CMAR Issued:</th>
<th>New CMAR #:</th>
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</tbody>
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**Signed By HOD Concerned:**

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**Signed By MR./ Director QEC/Auditor:**

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**Signed By HOD Concerned:**

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## Result Summary of 32nd & 33rd IQA

<table>
<thead>
<tr>
<th>Observation/ Non-Conformity</th>
<th>32nd IQA-April 2018</th>
<th>33rd IQA-October 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
<td><strong>Abbreviation</strong></td>
<td><strong>Severity Score</strong></td>
</tr>
<tr>
<td><strong>Scope for Improvement</strong></td>
<td>SFI</td>
<td>00</td>
</tr>
<tr>
<td><strong>Requires Correction</strong></td>
<td>RC</td>
<td>01</td>
</tr>
<tr>
<td><strong>Minor Non-Conformity</strong></td>
<td>Minor NC</td>
<td>02</td>
</tr>
<tr>
<td><strong>Major Non-Conformity</strong></td>
<td>Major NC</td>
<td>04</td>
</tr>
</tbody>
</table>

All followed & closed  
Total = 19  
All being followed  
Total = 11
Graphical Presentation Of 32\textsuperscript{nd} & 33\textsuperscript{rd} IQA

![Bar graph showing number of observations for SFI, RC, Minor NC, and Major NC categories for 2019 and 2020.](image)
Discussion of Results

- All the observations and non-conformities of the 32\textsuperscript{nd} Internal Quality Audit (IQA) stand closed after carrying out and verifying the required corrective and mitigation actions before conduct of the 33\textsuperscript{rd} IQA in October 2018.

- The involvement of stakeholders i.e. auditees during the whole audit process and their close coordination with the QEC and auditors not only helped in developing, promoting and ensuring their trust, but also in deciding, initiating and implementing necessary actions over the audit observations and non-conformities.

- The number of non-conformities (i.e. RCs and Major & Minor NCs) as well as the severity scores in the 33\textsuperscript{rd} IQA has reduced as compared to those of the 32\textsuperscript{nd} IQA (19 to 11).
Discussion of Results

- The trust of auditees developed and promoted during course of the 32\textsuperscript{nd} IQA appeared to be a major source of the improvements in the QA practices and can particularly be assessed from the results of the 33\textsuperscript{rd} IQA.

- No case of the conflict of interest was observed after following the policy of not including the audit team members in the audit of their own academic and non-academic departments; this also helped in ensuring trust of the stakeholders i.e. auditees in the audit exercise.
Conclusions

- The study presents an audit exercise carried out in NED University of Engineering and Technology using the Quality Auditing System to be as effective tool to implement and improve the QA practices.
- In the audit exercise, involvement of stakeholders i.e. auditees has been used as the basis for detecting, initiating and implementing the corrective and mitigation actions.
Conclusions

- The effectiveness of these actions in terms of improvements is verified through the results of the subsequent audit i.e. 33rd IQA held subsequently in October 2018.

- The involvement of stakeholders and avoiding the conflict of interest in the whole audit process helped in developing and promoting their trust as well as resulted in achieving and ensuring the quality assurance (QA) of the academic and support functions.
The Authors are indebted to

- The Government of Pakistan and NED University of Engineering and Technology for providing assistance in carrying out the QA exercise and funding to participate in the 15th International INQAAHE Conference

- The International Network for Quality Assurance Agencies in Higher Education (INQAAHE) for extending opportunity to present the study before global audience
Thank you.