



# VIRTUAL AUDIT OF ISO 9001:2015 DURING COVID'19

## – AN OBJECTIVE EVIDENCE BASED EMPIRICAL STUDY FROM AN AUDITOR'S PERSPECTIVE

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*Abstract:* Onsite to Offsite is the major change adopted by the certification bodies to conduct the management system audits due to forced lockdown and hazard posed by the novel Corona Virus. Despite the possible *Information and Communication Technology* it was never explored to its full potential in every facet of business. Researcher has conducted 32 online assessments by spending 82 mandays. This paper emphasize the challenges of online assessment conducted remotely instead making an onsite assessment. This research study Emphasise on the three parameters to determine the extent of conformity which are *People, Infrastructure and Environment for the operation.*

*Index Terms - ICT, Quality Management System, Online Assessment, Conformance, Audit*

### I. INTRODUCTION

ISO 9001 has become a pre requisite to many Organizations around the World and most preferred and widely recognized standard. In order to get Certified for ISO 9001 or any other management system standards like ISO 14001, ISO 45001, etc the process begins by identifying the requirement for certification followed by adopting the relevant standard criteria and demonstrate the extent of conformance by implementing the requirements of the ISO standard.

ISO 9001 Audits were conventionally conducted onsite to determine the conformance with the requirements of the quality management system or other management system standards such as environment, occupational health & safety, etc. Generally third party audits are conducted as per the framework of ISO 19011 *Guidelines for auditing management system.*

Remote Audits is an option provided under specified situations where the possibility of visiting onsite is restricted due to various reasons such as natural calamities, pandemic, travel restrictions, cost factor, etc. Remote audit is conducted by adopting the available resources in terms of *Information and Communication Technology*. The sampling criteria and the methodology of assessment remains unchanged. A broader and generic approach is framed for the management system audit considering the common structure, elements and definitions of many other ISO Standards. Audit results yield area for improvement and provide the management with necessary information on the extent of conformance with the criteria.

Management system audits in general are categorized in Internal Audits, Second Party Audits and Third Party Audits. This paper is focused on the third party audits conducted on behalf of the certification bodies.

## II. LITERATURE REVIEW

Not much research is conducted in this area from a management system auditors perspective on conducting remote audits.

## III. RESEARCH METHODOLOGY

Online assessment was conducted in Sample size of 32 Organizations by spending 82 Mandays. This research study primarily focus on the organizations ability to demonstrate conformance during Remote Audit with special focus on the criteria on *People*, *Infrastructure* and *Environment* necessary for the operation of the organization processes and to achieve conformance to services and products. Table 1 indicate the reliability of the questionnaire used to obtain the audit data.

Table. 1 Scale Reliability Statistics

Cronbach's $\alpha$	
scale	0.735

## IV. RESULTS

The outcome of the remote assessment from a management system auditor's perspective is summarized. The audit is conducted to determine with the conformity on the requirements of the *Quality management system* including customer requirements, applicable regulatory & statutory requirements and requirements determined by the organizations.

Table 2 represent the descriptive statistics for the criteria on *People*, *Infrastructure* and *Environment for the operation*. The Sample size is 32 where the least Mean value of Conformity assessment variable on *Environment for the operation* is 4.03. The highest Median value is 4.50 for the conformity assessment variable on *Infrastructure*. The minimum and maximum Likert Scale recorded is 3 and 5.

Likert scale interpretation:

- 1 – Major non conformance
- 2- Minor non conformance
- 3- Neither Conform nor Non-Conform (Inadequate evidence to determine conformance or Non conformance)
- 4- Conformance
- 5- Conformance with the Evidence of Effectiveness of the actions taken.

Table 2. Descriptive Statistics

	People	Infrastructure	Environment for the Operation
N	32	32	32
Missing	0	0	0
Mean	4.13	4.44	4.03
Median	4.00	4.50	4.00
Standard deviation	0.554	0.619	0.309
Variance	0.306	0.383	0.0958
Minimum	3	3	3
Maximum	5	5	5

Figure 1 indicate the density of the conformity assessment variable on *People*. The Likert scale 5 represent only 21.9% of the sample size in terms of conformity with effectiveness of the actions taken. 68.8% of the sample size represent on a value 4 on a Likert Scale assuring conformity to the requirements of the standard on the criteria described in the quality management system in *People*. Only 9.4% of the sample could not demonstrate adequate evidence to the Researcher while conducting the remote assessment and hence conformance or non conformance could not be determined with inadequate evidence.

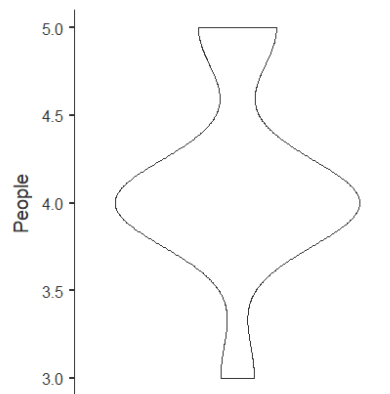


Figure 1. Density distribution of Criteria on People

Figure 2 indicate the density of the conformity assessment variable on *Infrastructure*. The Likert scale 5 represent 50.0% of the sample size in terms of conformity with effectiveness of the actions taken. 43.8% of the sample size represent on a value 4 on a Likert Scale assuring conformity to the requirements of the standard on the criteria described in the quality management system in *Infrastructure*. Only 6.3% of the sample could not demonstrate adequate evidence to the Researcher while conducting the remote assessment and hence conformance or non conformance could not be determined with inadequate evidence. Infrastructure includes but not limited to Office Buildings, Equipments and associated Utilities including both software and hardware, Information and communication technology and Transportation.

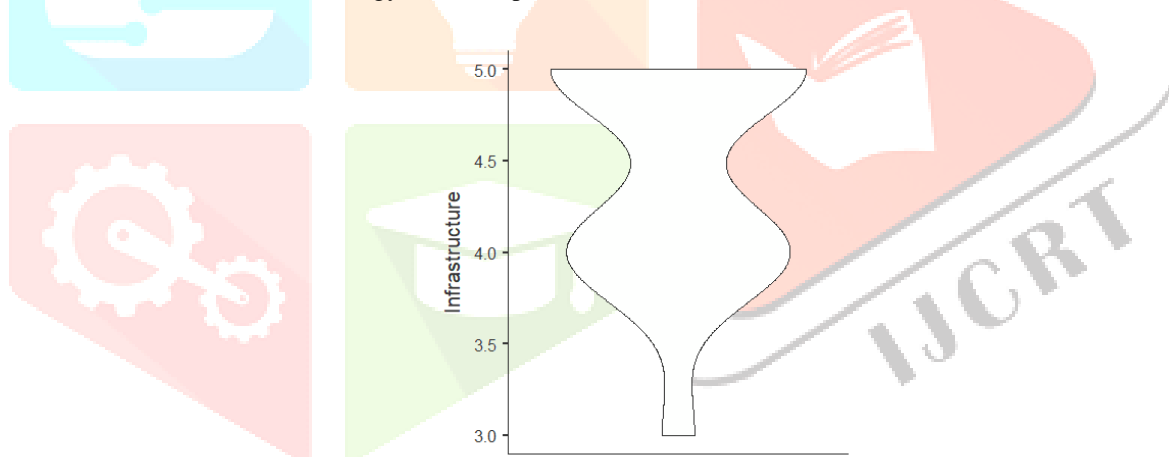


Figure 2. Density distribution of Criteria on Infrastructure

Figure 3 indicate the density of the conformity assessment variable on *Environment for the operation of processes*. This parameter is necessary for the organization to obtain conformity of services and products. The Likert scale 5 represent only 06.3% of the sample size in terms of conformity with effectiveness of the actions taken. 90.6% of the sample size represent on a value 4 on a Likert Scale assuring conformity to the requirements of the standard on the criteria described in the quality management system in *Environment for the operation*. Only 3.1% of the sample could not demonstrate adequate evidence to the Researcher while conducting the remote assessment and hence conformance or non conformance could not be determined with inadequate evidence. Environment for operation includes but no limited to Physical factors, Social factors and Psychological factors.

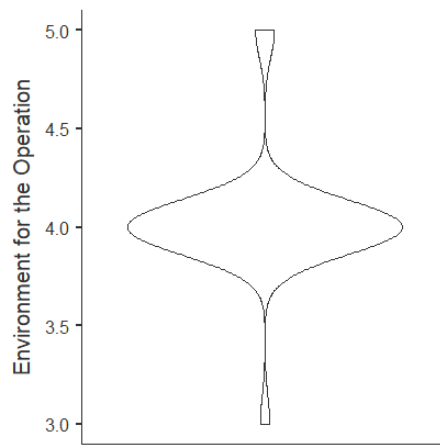


Figure 3. Density distribution of the criteria on Environment for the operation

Figure 4 represent the percentage of the MNC Organizations and Indian Organizations assessed from a sample size of 32 Organizations while conducting remote assessment. The MNC Organizations were 7 numbers against the sample size of 32 organizations. Indian Organizations were 24 numbers on a sample size of 32 Organizations. Researcher has not found any significant correlation between the Indian organizations and MNC organizations on the conformity assessment criteria of *People*. However the extent of compliance on the conformity assessment variable in *Infrastructure* and *Environment for Operation* is found to be slightly higher in MNC Organizations.

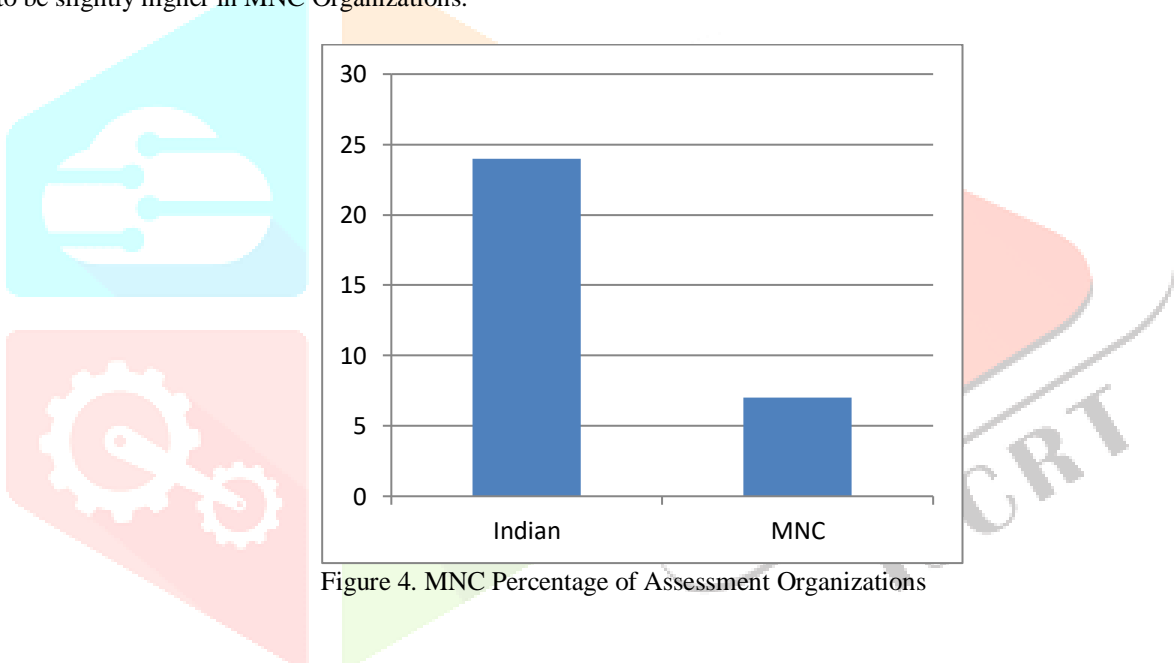


Figure 4. MNC Percentage of Assessment Organizations

Figure 5 indicate the distribution of assessments conducted Industry sector wise. Majority of the assessments were conducted on *Manufacturing* Industry sector. The Industry sectors are categorized as per the European Accreditation Codes.

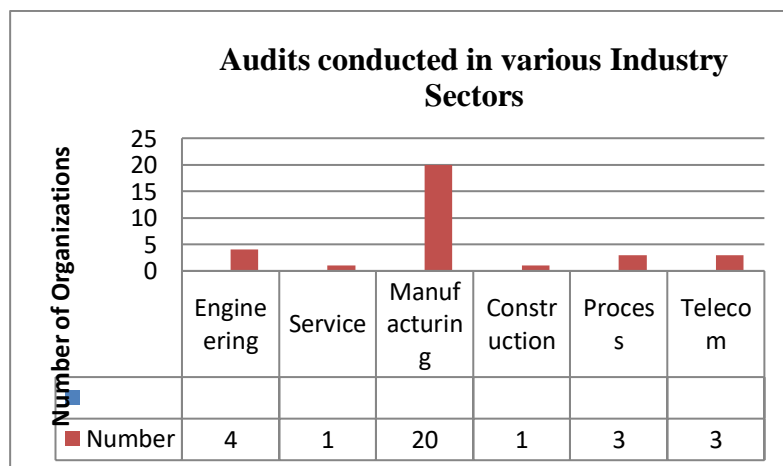


Figure 5. Assessment conducted in various Industry sectors

## V. CONCLUSION AND FUTURE SCOPE OF WORK

Online assessments are a beginning for conducting the remote audits as per the framework of accreditation bodies. The heterogeneous sample size represented Seven Multi National Companies and Twenty Four Indian Companies. The extent of conformance was based on the objective evidence obtained to determine the conformity to the criteria of the *Quality Management System*. The results of the assessment is based on the Samples verified during the audit and there could be an element of uncertainty in the *Quality Management System*. The focus was on certain direct relevant criteria such as *People, Infrastructure and Environment for the operation* effect the performance of the work and contribute to the work condition.

### 5.1 Challenges identified while conducting online audits:

- 1) Unavailability of Electricity, Power Back-up, Internet Connectivity, Data Transfer Speed and Data Usage Limitation, Speed of Internet.
  - 2) Confidentiality of the Trade Secrets and Video graphy of Intellectual Property.
  - 3) Data Security Threat as the Documents and Records are Shared Via electronic medium or Internet.
  - 4) Old Timers Not Versed With Usage of ICT Tools or Virtual Platforms unlike: Go To Meeting, Zoom, Google Meet, Microsoft Teams, Cisco Webex, etc.
  - 5) Limitation of Sample size and Sample Selection by the Assessor.
  - 6) Limitation of Restricted Area for Video Graphy especially in High Risk Industry Sectors Like Oil & Gas, Chemical, Nuclear, Etc.
  - 7) Limitation in File Size for Sending or Receiving Mail Box Capacity.
  - 8) Computer Malpractice, Hanging, Restarting, Loosing Unsaved Data, Computer Configuration.
  - 9) Statutory & Regulatory Requirements with respect to Informational, Communication and Technology.
  - 10) Technophobia in certain percentage of auditees restricts the involvement in online assessments.
  - 11) Ergonomic Hazard and Work Related Muscular Skeletal Disorders due to Improper Sitting Posture, Prolonged Usage of Computers and Exposure to Radiation, Eye Strain, Neck Pain, Wrist Pain, Back Pain, Head Ache, Etc.
  - 12) User Access Limitation through out organization.
  - 13) Restriction in Interviewing Shop floor employees and those employees who do not have access to computers such as: Canteen Staff, Security Staff, Scrap Yard, Occupational Health Centre, Sales and Marketing, Quality Control, Production, etc. .
  - 14) Grey area in identifying original and authentic document produced.
  - 15) The Management System Documentation partially or fully not available in soft copy.
  - 16) Software requirement on both auditor and auditee side to open or access certain files require special application/tool/software such as Auto CAD for Drawings.
  - 17) Auditor and auditee commitment to devote time for scheduled audit as per the audit plan.
  - 18) Auditor and auditee involved in multiple activities during audit hours which might not be related to audit.
  - 19) Unavailability of Office set-up with resources requirements like work stations, etc.
  - 20) Human touch does not exist (Shake hands, smile & greetings) to break the ice between auditor and auditee.
  - 21) Unavailability of all the documents in one place to showcase through electronic medium.
  - 22) Unable to cope with the Time zone difference especially in cross country audits.
  - 23) IT support not available.
  - 24) Risk of recording data and leak of information from either side.
  - 25) Unavailability of smart mobile phones with features of Internet, Data Transfer Application, High Resolution Camera, Security features, etc.
- Government restrictions on usage of certain applications.

### 5.2 Benefits of virtual audits:

- 1) Avoid Travel during Pandemic and reduced risk of exposure to COVID'19.
- 2) Reduced operational cost due to avoid of Travel Expense.
- 3) Saving of Travel Time to Client Country/Location/Site.
- 4) Hassel free interaction between auditor and auditee on virtual platform.
- 5) Multiple electronic mediums are available to suit the requirement of system, process and organization as a whole.
- 6) Virtual audits can be performed across the globe without any restrictions in terms of Air connectivity, Visa issues, Restrictions and prohibitions.
- 7) Auditor utilization is improved as no travelling is required during COVID'19 and virtual audits are being performed.
- 8) Auditors get an opportunity to work from home and spend more time with their families and attend their personal works.
- 9) Jet lag avoided due to travel restrictions.
- 10) Availability on Choice of food no more a problem during travelling various geographic regions.



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