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Using Innovative Measures for Enhancing Quality in the ODL System in India

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ABSTRACT:

Quality aims at meeting customer satisfaction through its various attributes in a product, process or system. Quality has to meet the requirements of a competitive environment, offer good price for cost and meet customer satisfaction. In the Open and Distance Learning (ODL) system, quality means the special attributes of ODL, such as being learner-centric and product centric, the value for cost, and the ability to fulfill the expectations of the shareholders. The ODL system in India is almost thirty-five years old and has met the educational needs of millions of students in India and abroad. The system needs to further improve the quality of its products and services. There is growing demand for adopting innovative measures for improving the quality of ODL system in India. This paper examines the quality aspect of the ODL system from different perspectives with the objectives of identifying the gap areas and parameters of quality. Based on the findings, this paper proposes an implementation framework for improving quality in the ODL system in India. This proposed framework is expected to facilitate the policymakers in assuring quality in the system.

KEYWORDS: Open and Distance Learning System, Quality Assurance, Innovation, Creativity, Benchmarking

1. INTRODUCTION:

The Open and Distance Learning system (ODL) system is a user friendly system, and as a result, has shown extraordinary growth during the past few years. The learners can learn at their own pace, and from their own place. The challenge of the distance between the learner and the institution has been considerably overcome through various learner support interventions. The open considerably overcome through various learner support interventions. The open universities and correspondence courses of traditional universities offer teacher - learner interaction through the distance mode to almost half of the students enrolled in higher education in India (Ghosh & Das,

2014). In spite of the user-friendliness, the challenge of equity, quality, efficiency and benchmarking exists in the ODL system. Further improvement in quality is expected in the area of counseling, learner support services and delivery methods. The students of the ODL system constantly feel the challenge of acceptance in reputed universities. Further, due to this bias, the ODL students have very poor absorption rate in employment as compared to the student of conventional universities.

To meet the quality requirements of the heterogeneous segment of students and the Millennium Development Goals, innovative measures need to be introduced in ODL system. The quality of the system will depend on the extent to which innovative measures are introduced and adopted by the ODL system. This will also fulfill the Millennium Development Goals which emphasizes education for sustainable development.

It is a big challenge to implement quality assurance in the ODL system as quality has many aspects. (Chaney, 2007; Darojat et.al, 2015). There are various frameworks and guidelines in place to manage quality in higher education (Mishra, 2006). However, the ODL system has many dimensions, and to study quality of the ODL system, its various dimensions needs to be examined and understood. Traditionally, the ODL system has been viewed as a system (Moore & Kearsley, 1996)and therefore, a system approach for studying quality is used in which each component will influence the quality of the entire system (Paton and McCalman, 2000).As in any system, the components of quality will include input, transformation and output. The inputs are faculty and learners, infrastructure and financial resources. Transformation includes all support activities, such as curriculum management along with all processes.

The outputs are the employable learners, contribution in terms of research activities and contribution to the socio – economic set up through education (Mishra, 2006). Quality in the ODL system is influenced by several factors that have been divided into three subgroups namely, central issues, issues related to the system and issues related to resource development (Koul, 2006). The various factors that determine quality may also be identified through the distance education theories.

The two great thinkers of distance education, namely Otto Peters and Börje Holmberg have opined about the scope of quality intervention in two different ways. Otto Peters, in his theory of industrialization, has described distance education as an industry embodying the characteristics of rationalization, division of labor, mechanization, assembly line, mass production, preparatory work, planning, organization, scientific control methods, formalization, standardization, change of function, objectification and concentration and centralization. Börje Holmberg, in his new comprehensive theory of distance education included dimensions, such as the centralized learners, student freedom, free access to learning, mediated communication, deep learning, personal relationship, study pleasure, empathy between teachers and learners, conceptual learning, and problem learning (Chaney, 2007).

Additionally, to maintain quality in the ODL system, there are various guidelines which are followed across the world. Some of these are ISO 9000-2000 (Mishra, 2006), Open and Distance Learning Quality Standards (ODLCQ), UK (ODLQC, 2006), Distance Education Accrediting Commission (DEAC), USA (DEAC, 2017), Commonwealth of Learning (COL) Guidelines (Rama et.al., 2009), Association of Asian Open Universities (AAOU) (AAOU, 2010), and University Grants Commission (UGC)-ODL guidelines, India(Controller of Publications, 2017).

Experts believe that the ODL system can be further improved by adopting problem- solving approach to processes and systems. A continuous improvement in the ODL system should be the goal of all stakeholders like faculty, students,

administrators, parents and support staff. This requires frequent training of the staff involved. Emphasis should be laid on developing the various parameters for improving the progress of learners i.e., intentionality, impulsivity, planning, communication, memory, competence, and reciprocity should be developed (Tribus, 1996).

In this exploratory paper, a study on the various aspects of quality in the different areas of the ODL systems in existence in India and abroad have been carried out with the aim to explore gap areas and the ways to improve quality in these areas through innovative measures.

2. OBJECTIVES:

The objectives of this study are to:

1. identify the gap areas of ODL system using the available guidelines for quality enhancement.
2. Identify the parameters of quality.
3. propose a framework for enhancing quality in the ODL system.

3. METHODS:

To achieve the objectives of this study the qualitative method of analysis of documents was used followed by quantitative assessment of IGNOU.

3.1 Analysis of documents: In this study, the method of document analysis was employed. As an analytical method in qualitative research, document analysis can provide data on the context of research, help tracking change and development, and provide a way to verify findings or corroborate the evidence from other sources (Bowen, 2009). For this study, documents pertaining to quality in education and the ODL system available on websites were analyzed. Pertinent research papers, thesis, reports, guidelines and innovation databases were also studied and analyzed.

3.2Assessment using predefined criteria: The quality of IGNOU was assessed in detail for exploring the areas of quality intervention. The instrument of assessment employed was the Commonwealth of Learning (COL) toolkit(Rama et.al., 2009). The toolkit was developed by experts from twelve Commonwealth countries and UNESCO. It includes international performance indicators for institutions to gauge their own performance. A detailed assessment of IGNOU using the performance indicators in the COL toolkit was carried out using the participant observation method. Since this is a yet unexplored area, there was no precedence of this kind of evaluation of IGNOU. For this, ten (10) criteria were selected against which 130 performance indicators were assessed. As suggested in the toolkit, the performance indicators were applied to the particular context and the performance against each of the performance indicators were recorded after carefully and objectively analyzing evidence from the IGNOU sources, such as Annual Reports, IGNOU Profile, Vice Chancellor's Report, Minutes of the Board of Management, research papers, IGNOU Ordinance, Distance Education Council (DEC) 2009 guidelines etc.

4. DEFINITION OF QUALITY IN THE ODL SYSTEM:

In management terms, quality may be defined as "customer satisfaction". The quality of a product or process may be determined by the satisfaction expressed by the customer after using it. The International Standard for Organization (ISO) 8402-1986 standard defines quality as "the totality of features and characteristics of a product or service that bears its ability to satisfy stated or implied needs." In India, quality has been defined as "fitness of purpose" (Mishra, 2006). For the ODL system, we may define quality as "the totality of the features of the products and services of the ODL

system that satisfies the learner's needs."

5. REVIEW OF LITERATURE:

Quality of a product or process may be measured by using various parameters pertaining to various relevant domains or areas relevant domains or areas In the ODL system, there exist several areas of operation, such as admission, programme development, counseling, examination, etc. Each of these operational areas has to follow standard quality parameters for quality assurance to develop quality in the various areas. There are several measures and tools for quality assurance, such as benchmarking. Further, the institutions of higher learning all over the world have developed several guidelines for enhancing quality in education. The following sections review the areas and guidelines, and the various parameters of quality and tools for quality assurance.

5.1 Areas and guidelines for quality assurance in ODL:

The ODL Quality Council (ODLQC) of the UK lists six areas of quality assurance, which are: (i) Outcome (ii) Resources (iii) Support (iv) Selling (v) Provider and, (vi)Collaboration between principal provider and the provider(ODLQC, 2006).In the USA, the Institute for Higher Education Policy (IHEP) considers five main areas of quality assurance in the ODL system: (i) curriculum and instruction, (ii) programme planning, evaluation and assessment, (iii) learning support systems and services (including libraries), (iv) faculty and faculty support, and (v) student services and information (Chaney, 2007).The Council for Higher Education Accreditation (CHEA) Distance Education Accrediting Commission (DEAC) provides lists seven key areas that are evaluated when quality of the ODL institutions are reviewed. These are: (i) Institutional mission, (ii) Institutional organizational structure, (iii) Institutional resources, (iv) Curriculum and instruction, (v) Faculty support, (vi) Student support, and (vii) Student learning outcome (DEAC, 2017).

In the Asian context, the various guidelines on quality of the ODL system, such as the Commonwealth of Learning (COL) quality toolkit, the Association of Asian Open Universities (AAOU) guidelines, etc., have identified areas for quality assurance. There are some overlapping or common areas in all the guidelines, which are (i) Vision, mission and values, (ii) Assessment and evaluation, (iii) Educational resources, (iv) Leadership, governance and administration, (v) Financial resources, (vi) Information Technology infrastructure, (vii) Teaching and learning, (viii) Curriculum and course development, (ix) Student support, (x) Faculty and staff, (xi) Internal quality assurance system, and (xii) Research (Jung et. al., 2011).

In India, there is one national University, IGNOU, and fourteen State Open Universities. In all these Universities, the Distance Education Council (DEC) 2009 guidelines have been used till now to evaluate ODL institutions for quality. Based on the DEC guidelines, the University Grants Commission (UGC) guidelines for ODL institutions have been formulated for implementation across India. The DEC guidelines stipulate nine areas as follows: (i) Programmes to be offered, (ii) Staff, (iii) Teaching learning strategies, (iv) Evaluation system, (v) Delivery system, (vi) Infrastructural facilities, (vii) Library and resource centre, (viii) Audio-visual production facility, and (ix) Information Communication Technology (ICT) facilities. The UGC guidelines for ODL system lists nine areas of quality: (i) Systems Management, (ii) Self-regulation, (iii) Quality [in learning material and pedagogy], (iv) Teachers and academics, (v) Use of technology, (vi) Programme launch, (vii) Admissions, examination and learner support, (viii) Evaluation and Certification, and (ix) Assessment and Accreditation (Controller of Publications, 2017). A report has described the status of

the ODL institutions in India with respect to ten areas of quality (Srivastav, 2016). These areas are the following: (i) Mission and Mandate (ii) Learner enrolment (iii) Programme types (iv) Enrollment pattern (v) Learner profile (vi) Learner success (vii) Pedagogy and application of technology in application (viii) Learner support (ix) Staffing (x) Income and expenditure All these areas of quality are followed in some form or the other by the fifteen ODL Universities in India.

Evidently, there are variations as well as commonalities in the guideline criteria or areas that define quality in the ODL system. This finding has also been reported by Cheney in a detailed analysis of the guidelines used in the USA (Chaney, 2007), and Jung et. al., in a comparative analysis of the areas in Asian ODL systems (Jung et. al., 2011).These guidelines may be considered for quality assurance in the Indian ODL system.

5.2 Parameters of quality in ODL

Parameters of quality are essentially the attributes or indicators of quality of a system, especially the products and processes developed and used in the system. It is believed that the characteristics of software as an intangible product are more consistent with higher education (Chaney, 2007).Owelia and Aspinwall, had proposed a model on quality in higher education and adapted the characteristics of the quality parameters of software quality assurance (Mishra, 2006). Subsequently Kefalas et. al (2003) proposed a similar model by using attributes of software quality assurance. These attributes are availability, usability, learning effectiveness, performance, security and potential for change. Similarly, many other attributes of quality in software systems have been proposed by Chen et. al., (2013), such as adaptability, configurability, flexibility, interoperability, performance, responsiveness, recoverability, scalability, stability, security, extensibility, modularity, portability, reusability, testability, auditability, maintainability, manageability, sustainability, and supportability. Accessibility has been identified as a quality attribute of web technologies (*Federal Communications Commission, 1999)*. Six attributes, namely functionality, reliability, usability, efficiency, maintainability, and portability were listed in a study on guidelines for software quality assurance (Esaki, 2013).All these software attributes are in the domain of human-technology interventions. Since the ODL system also employs human-technology interventions, these quality attributes may be conveniently used in the ODL system.

5.3 Benchmarking

Benchmarking is evaluation of a product, process or services with a standard. To maintain the standards and compete nationally and internationally an ODL institution needs to benchmark with best practices prevailing in other institutions. Benchmarking in the ODL system is the process of identifying best practices from within the ODL institution or other institutions in order to improve overall performance. Benchmarking employs the following steps (Chaney, 2007):

i. Comparing one thing with another thing.
ii. Creating criteria and using these to assess the difference between the two things.
iii. Use the differences to identify suitable direction of change.
iv. Implement the required change.

There are four categories of benchmarking: Product, Performance, Process and Strategic Benchmarking (SOMS, 2005).

1. *Product Benchmarking*: This is to facilitate redesigning product and services a qualitative comparison is made with best practices related to product or services. This includes cost valuation and learner-perceived quality.

1. *Process Benchmarking*: Here the process requires re-designing or re-engineering. A process is a set of sequential activities performed on a service to add value for creating learner satisfaction, e.g., online admission initiated in IGNOU. An effective and efficient process is created. In order to achieve optimum performance level an overhauling of the business process, management process and the supportive processes is done.
2. *Performance Benchmarking*: It serves as an important tool to identify the functional areas where there is greater scope for improvement. It includes system performance variables, such as efficiency and effectiveness, quality, flexibility and innovativeness. The aim is to identify a group of critical activities to improve the entire business related performance of the ODL system.
3. *Strategic Benchmarking*: It includes the best practices, which lead to profit enhancements and reduction in cost. Strategy is both proactive and reactive as the aim is to develop an ability to visualize the destination. Learning from others' best practices are important enablers for strategic benchmarking.

These four types of benchmarking may be used in appropriate situations for quality assurance in the ODL system.

For enabling the benchmarking process in the OD system, there has to be a database of best practices which could be used as a standard to compare with the practices of the ODL institution under evaluation. However, a comprehensive worldwide database of best practices in ODL system is perhaps not available yet. Only one compilation of best practices in the ODL system in the Asia Pacific region has been found available in the literature. It showcases best practices in areas, such as quality assurance, curriculum, policy and management, student services and tutoring, ICT innovations, cost savings, collaboration and for profit involvement (Jung, 2005). In India, IGNOU has developed a small database of innovations comprising of innovations carried out in ODL institutions across India (Das, 2017). The areas of innovation include programmes, application of ICT, admission, learner support, evaluation, quality and benchmarking, and convergence of systems. The database contains more than a hundred innovations and ideas that may serve as benchmarks to improve the quality of the ODL system. Incidentally, several quality practices at IGNOU, especially in the field of programme and course development, have been used as benchmarks by the state open universities in India (Srivastav, 2016).Benchmarks need not always be adapted from the ODL institutions. The best practices used in other institutes of higher education across the world may be selected as benchmarks and suitably adapted.

5.4 Creativity tools:

Creativity tools are inherently the methods to enhance creative thinking in individuals. There are two kinds to creativity tools that foster either convergent on divergent thinking. Creativity tools help to devise creative and innovative solutions to problems. The most popular creativity tool is the brainstorming method. There are other tools, such as brain writing 6-3-5, attribute listing, SCAMPER, wishing, New Useful Feasible (NUF), force field analysis, six thinking hats etc. (Creating minds, 2015).These creativity tools can be used in suitable combinations to generate new ideas, refine those ideas, and implement them for quality improvement in a gap area in the ODL system.

6. RESULTS:

6.1 Identification of parameters of quality in ODL system:

This study identified fourteen parameters of quality assurance in the ODL system. These parameters may be

used for measuring the quality in the products and services of the ODL system. These are availability, accessibility, affordability, usability, learnability, reliability, durability, security, flexibility, manageability, serviceability, performance efficiency, sustainability, and scalability. These parameters have been described in detail in Table 1.

Table 1. Quality parameters identified for the ODL system

S. No	Parameter	Description
1.	Availability	The products and services of the ODL system are available on time and at any time the learner needs it. Similarly, the availability of resources is there for all other stakeholders on time and as and when they need these.
2.	Accessibility	The product and services are accessible to all including the differently-abled or those with special needs or those residing in the remote areas, to their satisfaction.
3.	Affordability	The products and services are cost-effective or affordable for the learners.
4.	Usability	The learners, teachers and staff are able to use the products, processes and services for teaching-learning in an efficient manner and with satisfaction.
5.	Learn ability	The product and processes enhance the ability of the learner to quickly grow and adapt her knowledge and skills.
6.	Reliability	The mechanism of assurance is in place where the continuity and accuracy of service is guaranteed. Also the system intimates the learners in case of any failure to deliver its products or services. The other stakeholders are similarly intimated.
7.	Durability	The products and services are relevant for a long time.
8.	Security	The system can protect confidential data, such as learners' details. The Intellectual Property Rights are protected. Other forms of security measures in technology use are maintained.
9.	Flexibility	The system can adapt in case there is a change in the external environment. New policies, products, processes or services are included if needed.
10.	Manageability	The system is easily manageable. It may include operations and deployment of products and services.
11.	Serviceability	The system can be supported through changing configurations in the products, processes, or services.
12.	Performance efficiency	The system is able to provide the desired output, e.g., produce learners with knowledge and skills.
13.	Sustainability	The quality improvements in the system are sustained for a long time.
14.	Scalability	The quality improvements in the system can be scaled up to be implemented in other related areas of the system.

6.2 Identification of gap areas in IGNOU:

The results of evaluation of the institution brought into light three criteria standards (with zero score) that were considered as gap areas at IGNOU. The three criteria standards had ten performance indicators. Out of these ten performance indicators, three important performance indicators were selected for further study (Table 2) and the subsequent development of a framework.

6.3 Suggested Innovative Measures for gap areas

Table 3 provides the suggested methods and tools that could be used to devise innovative solutions for the gap areas. As a solution to the gap area under the criteria "The learners" this study proposes "benchmarking" as the innovative measure. For the criteria "Infrastructure and Learning Resources", this study proposes "benchmarking and creativity tools". This study proposes the use of "Creativity tools" as an innovative

measure as a solution to the gap areas in "Research consultancy and extension services".

Table 2 The three most important gap areas in quality at IGNOU selected for the study

S. No	Criteria	Performance Indicator
1	The learners	Research into the needs and expectations of learners provides inputs to policy making in the institution.
2	Infrastructure and learning resources	The institution has mechanisms to regularly evaluate the adequacy and accessibility of resources and services for learners' inadequacies.
3	Research consultancy and extension services	Findings of research underpin the development of the programmes and the courses of the institution.

Table 3 Benchmarks and creativity tools identified for the three important gap areas of quality in IGNOU

Sl. No.	Criteria	Performance Indicator	Innovative Measure	Method
1.	The learners	Research into the needs and expectations of learners provides inputs to policy making in the institution.	Benchmarking	A study of UK higher education was commissioned by the Quality Assurance Agency, UK and was published as a report in 2013 (Kandiko & Mawer, 2013). This report may be used for suitably designing research tools to conduct research studies on the needs and expectations of IGNOU Learners.
2.	Infrastructure and learning resources	The institution has mechanisms to regularly evaluate the adequacy and accessibility of resources and services for learners and takes appropriate remedial measures to address inadequacies.	Benchmarking and creativity tools	The Guide to Evaluating Distance Education and Correspondence Education by the Western Association of Schools and Colleges, USA (Western Association of Schools and Colleges, 2013) may be used as a benchmark for identifying areas of quality intervention. Thereafter, creativity tools such as brainstorming, attribute listing, six thinking hats etc can be appropriately used.
3.	Research consultancy and extension services	Findings of research underpin the development of the programmes and the courses of the institution.	Creativity tools	Tools, such as brainstorming, or brain writing, NUF and force field analysis may be used to devise ways to: Develop solutions for: a. effective feedback collection b. report generation from research done by IGNOU and other ODL institutions c. identification of appropriate methods based on data collected at a and b above to be presented to the policymakers for implementation.

It needs to be emphasized that the products and processes developed during the innovative measures should incorporate suitable quality indicators provided in Table-1.

7. PROPOSED IMPEMENTATION FRAMEWORK:

Based on above review and analysis the following implementation framework for quality improvement of the ODL system is proposed (Figure 1). There are four major components of the framework. These are (i) assessment of the institution, (ii) identifying the gap areas, (iii) employing innovative measures, and (iv) implementation. These components are described below in brief.

7.1Assessment of the Institutions:

The operational areas of the ODL institution need to be assessed using standard guidelines. This will lead to the identification of gap areas that need quality improvement.

7.2 Identifying the gap areas:

Based on the mentioned in assessment using pre-defined criteria mentioned in the standard guidelines, the gap areas that need suitable intervention, should be identified. The problem should be clearly stated, which will help in devising appropriate solution.

7.3 Employing innovative measures

The problem statement of each gap area should be carefully studied and suitable tools, such as benchmarking or creativity tools may be employed to devise innovative solutions. A suggestion on how to carry out this step is presented in Table 3.

7.4 Implementation

The solution developed for the gap area, after thorough testing and feedback, should be implemented by the institution. Periodic monitoring should be carried out to ensure its optimum use.

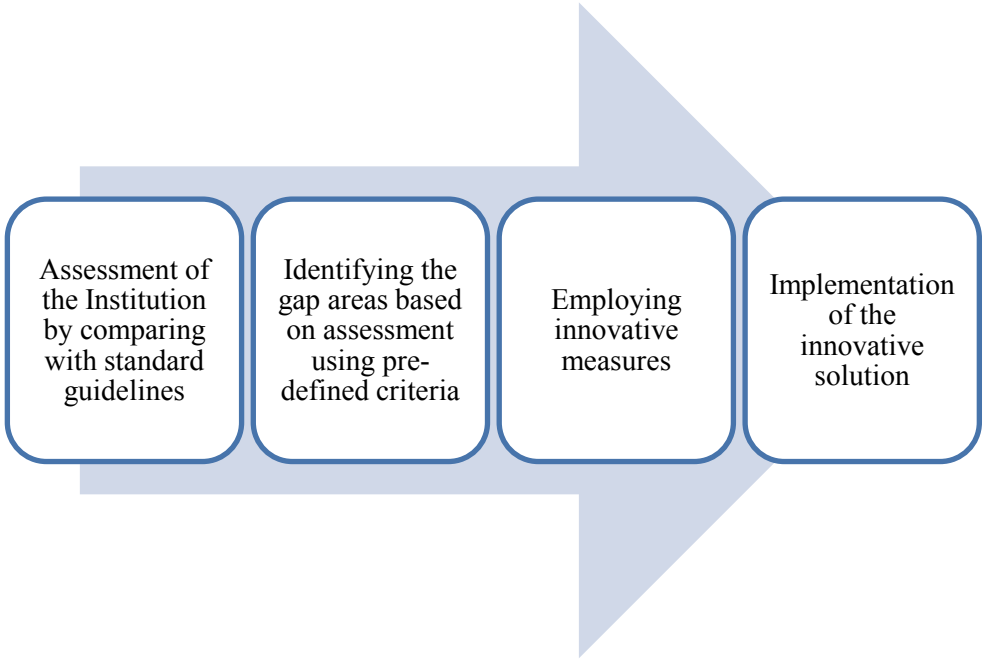

Figure 1. An implementation framework for quality improvement in the ODL system

8. CONCLUSION:

There is a felt need for quality assurance in the ODL system in India. New and innovative ways to devise solutions need to be devised. This study has looked into the existing situation of quality assurance in the ODL system around the word and India with a view to propose innovative measures to improve the quality of the system.

The study reviewed the existing quality guidelines meant for the various areas of the ODL system, and shortlisted COL guidelines as a suitable guideline tool for analyzing an ODL institution. It may be noted that the guidelines may not contain all the necessary indicators and might need to be upgraded as per the context, and also with the developments happening with time. The various existing parameters of quality in ODL products and processes drawn from software quality assurance and systems engineering disciplines that are being used in the ODL institutions worldwide were analyzed in this study. Based on this analysis, fourteen quality attributes were selected, defined and proposed to be included appropriately to design and develop innovative products or processes for the ODL system. The study proposed an implementation framework for innovative measures using ben chmarking and creativity tools. This framework has four components, namely assessment of the institution, identifying the gap areas, employing innovative measures, and implementation.

The proposed framework after due adaptation should be tested on pilot basis followed by due validation and implementation. This framework, when adopted, is expected to bring in the necessary change towards quality improvement in the ODL system.

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