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Quality Assurance of Online and Distance Learning Education for SAARC Region during Covid-19 Situation

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ABSTRACT

The outbreak of second wave of COVID-19 pandemic has again halted routine life of normal citizen across the globe. The nature always support the change for better future and covid-19 has provide chance to change challenges into opportunities. This study is sought to examine post Covid-19 effects on ICT infrastructure for e-learning education and its quality assurance mechanism in SAARC countries. This research is descriptive in nature and use comparative analysis of numerous challenges faced by SAARC member countries for implementation of E-learning. Challenges and limitation are also brush-up for further refinement in future in these areas. Future researchers may conduct survey techniques in explanatory research on implementation of ICT infrastructure of SAARC region countries. SAARC member countries may take lead from this study to address challenges and their solutions for development and implementation of E-learning.

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1. Introduction

The COVID19 pandemic has halted the daily lives of people and is now trapping the world in its control. The virus first identified in Wuhan in December 2019, the deadly novel Coronavirus spread rapidly across the globe (Zhu N et al., 2020). COVID19 is an infection marked by extreme respiratory distress, and it is more serious than the flu virus. World health organization highlighted that COVID-19 is extremely infectious, which infected individual beings that can be able to transmit it to 1.4-2.5 persons (WHO, 2020). Keeping in view the huge potential of this virus to infect people within no time, WHO officially announced COVID-19 a global pandemic on 11 March 2020 (WHO, 2020)? A dangerous and deadly attack by Corona virus has been reported in the second wave of the

Covid-19 pandemic in most part of the world (WHO, 2020). As per WHO official website, till 28 December 2020, there were 79,232,555 confirmed Covid-19 cases and 1754,493 deaths around the world (WHO Coronavirus Disease Dashboard, 2020). Globally education sector also received burnt of COVID-19 and at the same time, HEI have expected to become volatile, owing to presence of huge number of young student population and their close social contacts with one another. During an outbreak of pandemic, the affected percentage may cross the seasonal average of 1/3 of the student populace. Due to quick transmission of covid-19, students and their families are facing negative financial impact at their home countries. The Covid-19 contagion has affected the most part of the world instantaneously. By closing schools and universities globally are normal phenomena in Novel Corona (Covid-19) pandemic, which played disaster with future of students of higher education. Globally countries were not interested to introduced online-learning due to compromise on quality of education but at the same time, academics understood value of E-learning or distance learning in future. It has been viewed of researchers for a long time that the prospect of education goes along with the supremacy of the Internet (Wang et al., 2008). Researchers also emphasized that online-learning system is one of the types of Information System that can be utilized as substitute. World-class renowned educational institutions like MIT have already used seriously E-learning, but SAARC countries are still behind the developed countries for institutionalizing the online-learning education. Due to Covid-19, it was considered blessing in disguise by universities located in SAARC countries and adopted different strategies to tackle the online education in their universities.

2. Literature Review

E-learning and Distance learning have been known famous terms for last two decades which are related with digitalization in education sector. Before the coronavirus pandemic, E-learning was considered as an offshoot of science discipline, rather than extensive practice. Before Covid-19, it was normal practice by the faculty and students to be present in class and using white or black board as teaching aid but these are no more feasible in current scenario. Outbreaks of pandemic (Covid-19), presents extraordinary challenges to continuity of an education while maintaining the social distancing and other safety measures. To continue with the existing practice of education there was a dire need to transform digitalization in short span of time. To some extent higher education (undergraduate and graduate) learning system is changing and in exchange, as assignments and teaching materials are shared through e-mails, social media and different online educational software like MS teams, Zoom, YouTube, Whatsapp. However, due to Covid-19, this it was blessing in disguise to quickly adopt the digitalization through E-learning. To understand further it is pertinent to mention that there are three types of e-learning:

- **Asynchronous:** this is used for exchange of teaching material through social media, email, learning management systems and others.
- **Synchronous:** it is a real time conversation, exchange of material implemented through by Microsoft Team, videoconferencing tools such as Zoom and others.
- **Hybrid:** it is blend of both asynchronous and Synchronous.

It is an evident that the digital technologies and Learning Management System (LMS) play very important role in learning, teaching and assessment to acquire knowledge, and E-learning is an efficient and effective way to overcome the education teaching problem which raised after Covid-19 pandemic.

3. Education

Education is the process of the acquisition of knowledge, beliefs, habits, facilitating learning, or, skills, and values, Educational methods include teaching, training, storytelling, discussion and directed research. Education frequently takes place under the guidance of educators; however, learners can also educate themselves. Education can take place in formal or informal settings and any experience that has a formative effect on the way one thinks, feels, or acts may be considered education.

3.1 Online Education

According to Moore (1990) there is an instruction based relationship between a student and a tutor with regard to meanings of E-learning, which involve guidance while the student and teacher are participating in the teaching and learning collaboration from different locations and at real time. Keegan (1996) has also emphasized that online or distance education is a relative term that all kinds of E-learning through the use of digital means are considered distance education. Accordingly, "E-learning is a form of distance education". E-learning or distance learning has been also contributing enormously since the last decade. Additionally, it is evident that the researchers and leaders also considered the worth and reputation of E-learning.

3.2 Online and Traditional Degree Programs

Researches pointed out many pros and cons of online education while comparing with conventional education. Those students who are unable to get traditional education can easily get their degrees with the help of online education (Beljerano, 2008; Dolezalek, 2003; McArdle&Edwards, 2004; McKeown, 2012). It is also an evident in many research studies that students can learn efficiently and more effectively in an online teaching methodology. (McKeown, 2012; Toth, et al., 2008). Moreover, many scholars also explained that faculty members might not like this mode of on line education while institutional authorities view online programs as a medium to entertain more students with new demographics (McKeown, 2012). The reason of this resistance is because of the adapting conventional techniques to e-learning methods (Dolezalek, 2003; McKeown, 2012). Keeping in view the current circumstances globally, it is a dire need to develop and adopt I-pedagogy and its quality assurance measures to save the future of our generations.

3.3 I-Pedagogy

SAARC countries may need to develop and understand I-pedagogy before completely move to E-learning. Sciences of education (pedagogic) in charge of investigating how to educate a child and young man reaches maturity, i.e. the extent particular developments in general terms to be accepted fully as citizens of the communities (W. Rasyidin, 2014). Practitioners of pedagogy, is expected to have an understanding of the development of education relevant to the era of the industrial revolution that now thrive. Mobile and computing, cloud, social network and big data are those innovations that created a lot of opportunities to design a learning ecosystem that enhances personalized learning which is independent of time and place. In this system of learning, there will be flexibility for students to design their own educational pathways based on their personal goals preferences. There is increasing demand of online learning, it will require the use of Massive Open Online Courses (MOOCs) for instance Coursera, virtual classroom, remote labs, virtual labs and experiential learning as important tools. With a rising level of complexity in digitized learning, it will be highly important to maintain quality and develop digitized processes for quality assurance. Innovation being key to success, HEIs should take guidance from I-Pedagogy wheel (Figure-I characterized by open source innovation and learning-by-doing), and utilize as a tool to train

graduates for modern technologies and digital applications. With the increased use of these digital mediums of learning will also help to identify the areas for continuous improvement. Further, it will also help to develop QA mechanism for academic digitalization process.

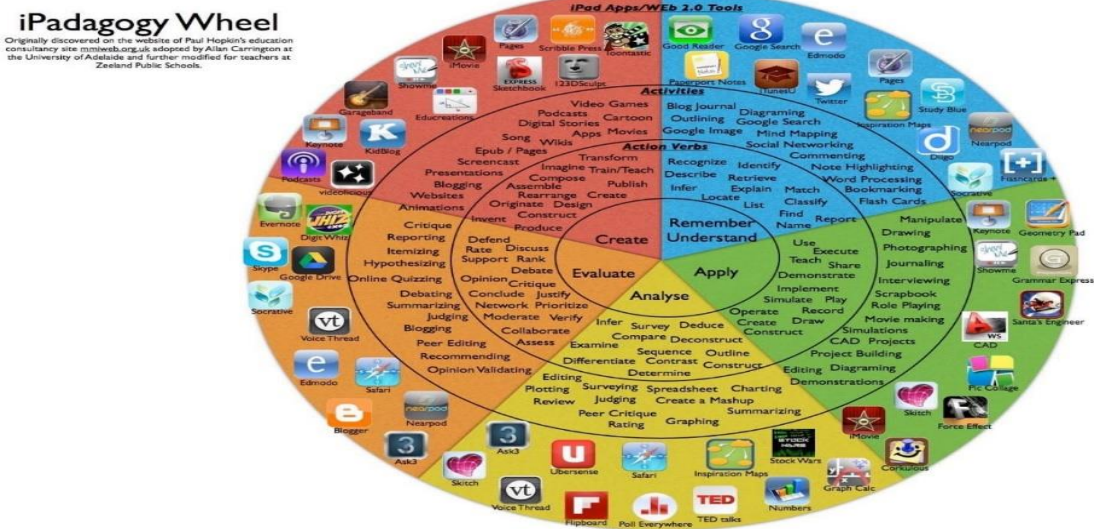


Figure- 1 (I-Pedagogy Wheel)

Source: adopted from Allan Carrington, 29 November 2020

3.4 Approaches of SAARC Member Countries to Online Education

India, Pakistan, Bangladesh and alike are highly populated countries in the SAARC region after Covid-19 Pandemic. These countries are badly hit by coronavirus and their death toll is also highest respectively as indicated in Table 1. It is right of all humans to get education. In the most of the foreign countries, there are maximum numbers of students from SAARC countries, who are studying in e-learning environment and facing number of IT related issues. This is a critical issue in the field of education and this critical situation may be dissolved with the amalgamation of Education and “Information Communication Technology (ICT)” and. In this situation many Governments and agencies have implemented such type of e-learning platform so that education barriers are avoided. To get the benefits of e-learning, only basic ICT knowledge is necessary. There are many working professionals, dropout students, housewives, etc. who are not able to complete the education in time, they got the chance to complete or to enhance their learning in this platform. There are eight countries in the SAARC. Each country has their own e-learning platform to provide the services to the citizens of the respective country.

Table 1. COVID-19 Infected and Death Cases in SAARC Countries

Ser	Country	Infected Cases	Deaths
1	Afghanistan	52007	2170
2	Bangladesh	509148	7452
3	Bhutan	623	-
4	India	10,207,871	147,901
5	Maldives	13644	48
6	Nepal	258181	1825
7	Pakistan	471335	9874
8	Sri Lanka	41054	171

(Source: <https://www.questia.com/library/journal/1P4-2299764001/e-learning-platform-in-saarc-countries>) Retrieved on 29 December, 2020

As emphasized by Chairman Higher Education Commission (HEC) of Pakistan Mr. Tariq Banuri, to leaderships of Higher Education Institution, official of the HECs, “University Grants Commissions (UGC)” and equivalent bodies of SAARC states in a meeting concluded on 10 Dec 2020 that the SAARC members have almost facing similar problems and experiences in the use of e-learning and I-Pedagogy which includes connectivity of IT networking, electricity interruptions and need for advanced ICT infrastructure. (Recorder Report, 11 Dec 2020)

3.5 Challenges for Implementation of E-Learning at SAARC Countries

Implementation of e-learning to every citizen is challenging and uphill task in the realm of SAARC region countries. The low literacy rate, poor ICT infrastructure, lack of skilled IT manpower, low GDP growth and low per capital incomes are big challenges for the leadership of SAARC region countries for implementation of e-learning mode of education after Cov-d-19 pandemic.

4. Literacy Rate Comparison

Ability to read and write in native language of any county is known as literacy. But there is always low literacy of IT based skilled manpower in SAARC countries. Hence these hindrances ultimately affect the implementation of e-learning education in the SAARC members’ countries. Therefore, higher literacy rate plays vital role in the establishment and implementation of e-learning system. As compared to literacy rate of the SAARC members’ countries, Afghanistan found at number four positions with 38.2% of ‘literacy rate’. Whereas, “Maldives, Sri Lanka” have are at first and second positions with 98.6 % and 93.2% of ‘literacy rate’ respectively.

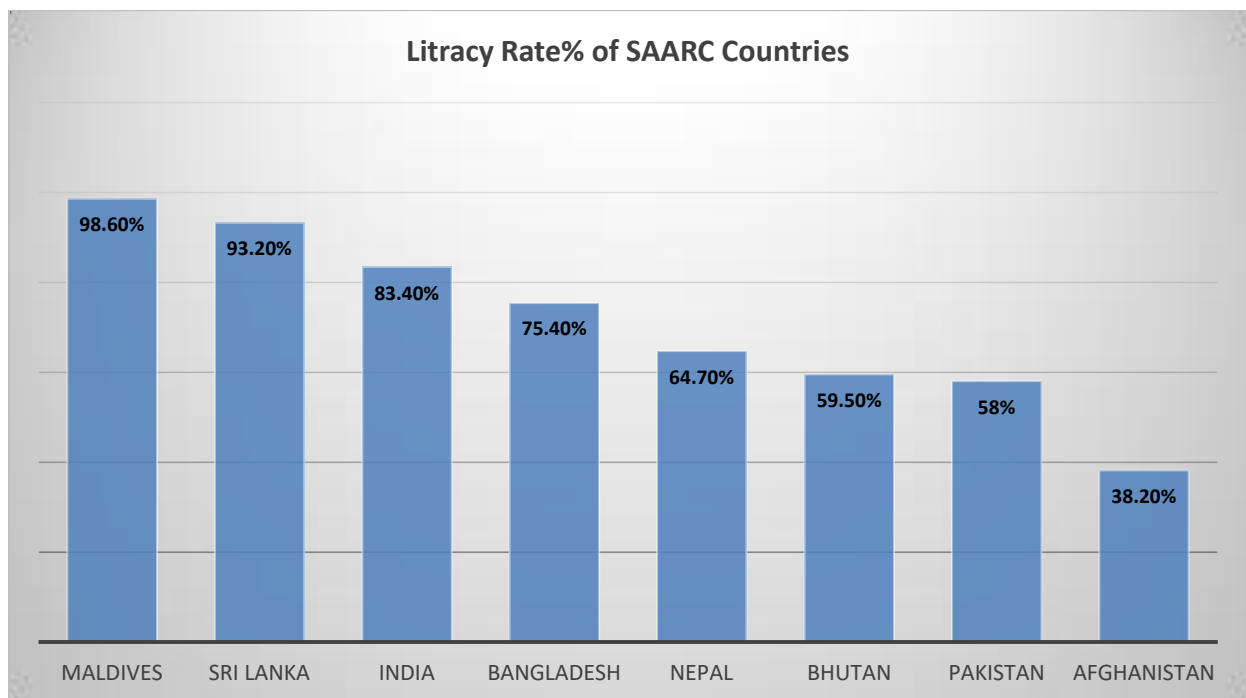


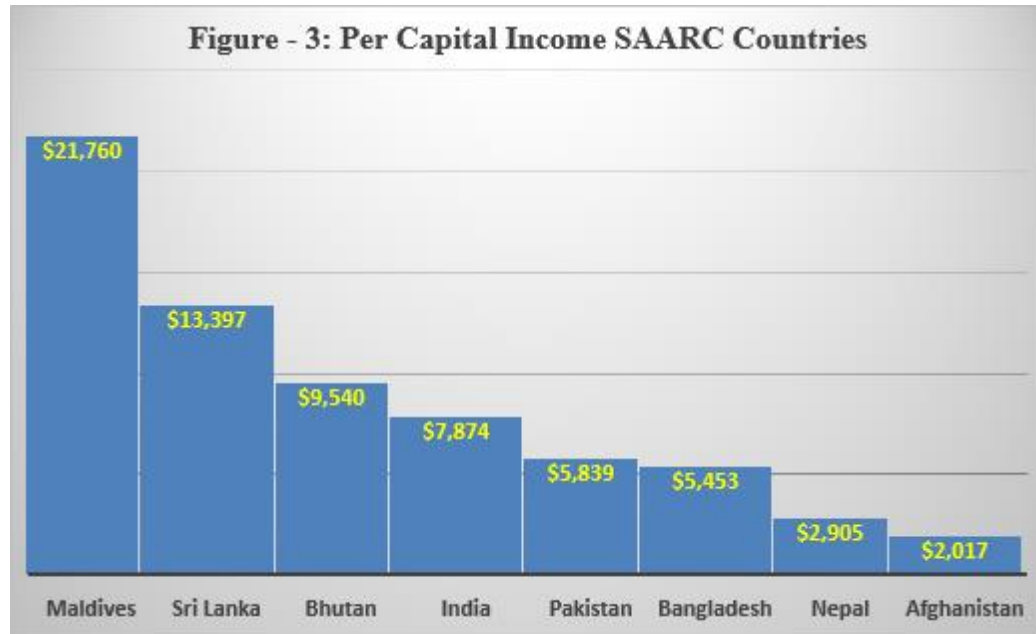
Figure – 2: Literacy Rate Comparison of SAARC Countries

Data Source: WikipediaSouth Asian Association for Regional Cooperation, Retrieved on 30 December, 2020

5. Low per Capital Income

The most influential source of development of any country is a per capital income index. It means, "how much each citizen received". Therefore, ‘per capital’ income is measured in units quantity of a currency within a year. The low per capita income is also considered an enormous

challenge for establishment and employment of e-learning education in the SAARC member countries. The existing details of per capital income of SAARC countries is given in Figure-3



Data Source: WikipediaSouth Asian Association for Regional Cooperation, Retrieved on 29 December, 2020

6. Poor Infrastructure

Technological Infrastructures is a play a key role in the establishment and implementation of e-learning system in any country and deficiency of technological infrastructure is considered the biggest problem for countries that are desirous to develop, maintain and implement e learning system for education. Internet, Computer, mobile phone and Telephone are essential components of e-learning System; hence, ICT is the influential mechanism for the establishment and implementation of e-learning System and in the absence of ICT no country can thing about e-learning. The comparison of withheld ICT facilities of SAARC member countries is also highlighted in Figure-4.

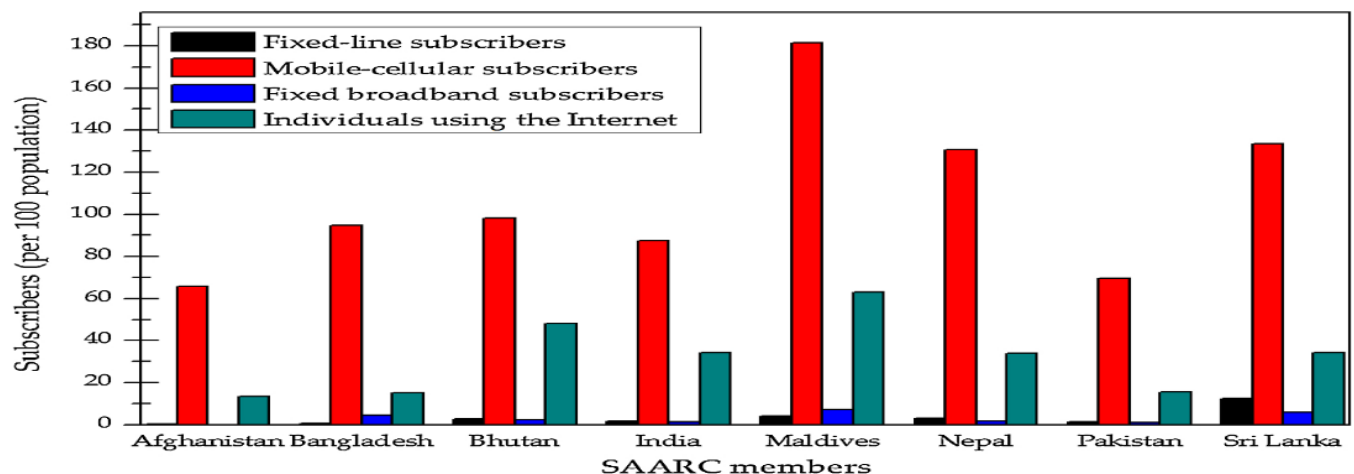
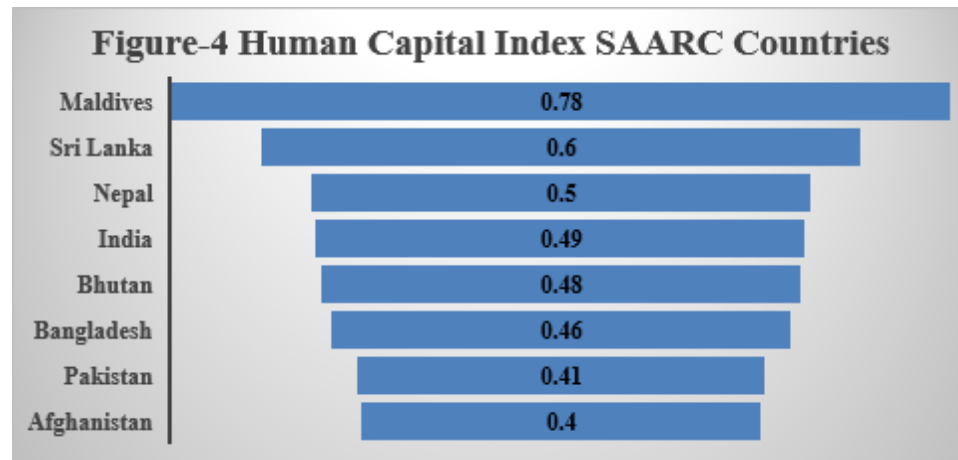


Figure - 4: Comparison - ICT Facilities in SAARC Member Countries

Source: Dhakal, T., Lim, DE. Understanding ICT adoption in SAARC member countries. Retrieved on 30 December, 2020

7. Lack of Human Resources

Level of human resource capacity also affects the e-learning development in a country. The human capacity has two dimensions; one refers to the skills and capabilities of an implementing authority to implement e-learning system and second is refers to e-learning users in the shape of citizens of a country. If governments are serious to implementing the e-learning than they should have a skilled IT based human resource. As per World Bank report (Figure-4) of SAARC countries, Afghanistan with 0.4 is lowest and Maldives with 0.78 is highest in human capital index, which shows untrained human capital index as compared to other SAARC member countries.



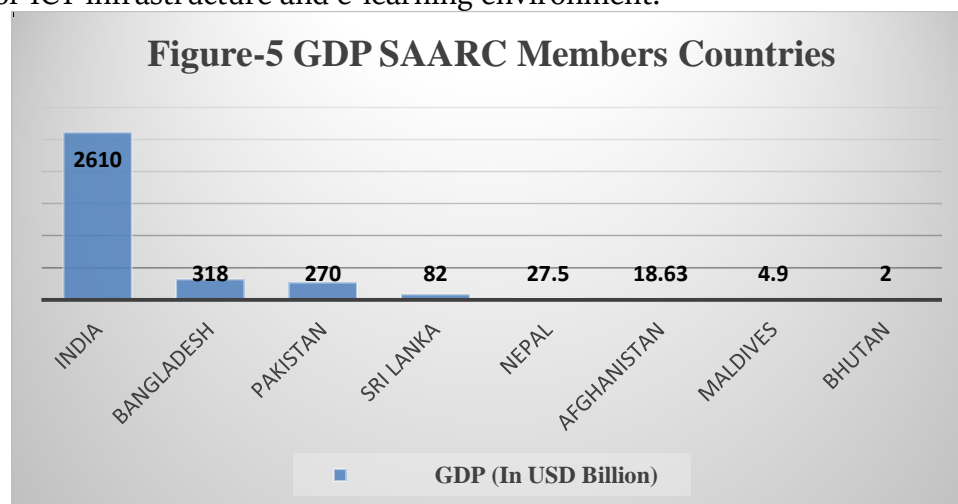
Source: World Bank Human Capital Index Report 2020, Retrieved on 29 Dec 2020.

8. Political Instability

For the establishment, expansion and implementation of e-learning projects, a country’s political condition must be favorable and consistent. Lack of leadership’s IT vision can lead to county against the implementation of e-learning system. Frequently, changing governments is not creating favorable environment for development of ICT infrastructure for e learning. Mostly SAARC countries are facing the same dilemma due to vested interests of foreign countries.

9. Financial Constraints

The Gross Domestic Product (GDP) is a tool to measure the economic strength of a country; therefore development of a robust ICT infrastructure is related with healthy GDP of a country. As shown in (figure -5) financial strength of most of SAARC countries is not in good condition, which is not suitable for ICT infrastructure and e-learning environment.



10. Lack of Awareness/Training

Trained manpower is essential for implementing of e learning in the country. This is the great challenge for the SAARC poor countries. SAARC countries should have training awareness campaign for implementing of E-learning.

11. Innovative Methods for Digitalization at HEIs

Technology is a means to justify the end of composition outcomes and has become a seamless extension of the curriculum in the classroom. To most effectively teach technology, we must model that technology within our disciplines and classes (Naga PC, 2018). In higher education, digitalization process has its transformation into two broader parts: Services transformation mainly focuses on development of new education products and transformation of traditional processes into digital. For instance, it may include converting offline lectures into video ones, creating digital texts and quizzes. It also includes creating digital relationship for communication between students and teachers. On the flip side, Operations transformation mainly deals with processes related with academic management. It includes digitalization of all the common operations of educational institutions, for instance, students' admission, registration for programs and courses, examination and assessment, program and curriculum development, and most importantly their quality assurance. Few digitized methods and technologies that are being used: -

- **M-Learning.** “Smartphone allows you to do nearly anything: connect with your peers, work on homework online, play video games, use social media, search for information online and have access to a world of good and bad influences, as well as the latest entertainment” (Dorsey et al, 2016).
- **E-Learning.** “E-learning involves the use of a computer or electronic device in some way to provide training, educational or learning material” (Maneschijn, 2005)
- **Blogging.** Blogging is content published as public post. Blogging is being practiced for study sessions.
- **Podcast in Classroom.** “Podcasts are serial recordings, posted regularly online. Basically, producing podcasts is the technology-based equivalent of oral lectures. Much as lectures and news have been shared with listeners, who download the files online. The advantages of podcast are its flexibility, reusability of your lecture” (Naga PC, 2018).
- **Social Media.** “A social media where individuals are in communities that share ideas and interests. Some popular communities are: Zoom, MS Teams, Facebook, WhatsApp, MySpace, YouTube, blogs, Twitter and delicious. Facebook and other social media have been hailed as delivering the promise of new, socially engaged educational experiences for students in undergraduate, self-directed and other educational sectors” (Naga PC, 2018).
- **SMART Boards.** “SMART Board interactive whiteboards make learning a visual, engaging experience for students, which helps deepen understanding and promote retention of course material” (Naga PC, 2018).
- **Moodle.** “It is open source system to help design your session. Moodle is Virtual Learning Environment which provides staff and students with access to electronic teaching and learning materials such as lecture notes and links to useful websites and activities such as discussion forums, group it is something that lets you capture your experience, note, website and photos” (Naga PC, 2018).

In addition to that ‘Artificial Intelligence’ (AI) and ‘Internet of Things’ (IoT) are part of the digital transformation at world level and HEIs aren’t exception. Academic leadership and pedagogy experts are already making serious efforts to bring requisite change in response to these innovations. Around us we can see there are hundreds of smart things like but not limited to smart phones, cars and home appliances. These advanced data science and machine-learning technologies can help to automate a lot of useful processes to convert HEI into a smart campus. These emerging technologies may be used AI teaching assistants (like Google and Amazon smart devices), analysis of student’s performance, and much more.

12. Quality Assurance Mechanism of SAARC Countries

Quality Assurance in HEIs is referred to a planned and systematic process of review in an academic or research institution or program to ensure that quality standards of education, scholarships and infrastructure are being met, maintained and enhanced. Therefore, “standards of quality of higher education in Pakistan need to be improved significantly to achieve the goals of competitiveness with international standards and to create foundations of a knowledge economy and compatibility (Batool& Qureshi, 2006).

The concept of quality at higher education came from industry and private sector (Newton, 2002). Initially, in the 1980s, quality assurance methods were introduced in England as part of the Teaching Quality Assessment (TQA). “TQA based on a third-party review and assessment at the institutional level and peer reviews (Cheng, 2010)”. Then during the period of 1995 – 2001, it was replaced with subject reviews. “Subject review was further replaced by the institutional audit by the Quality Assurance Agency (QAA) for higher education in England (Cheng, 2010)”. Quality Assurance Agency (QAA) was commissioned in 2004 under supervision of the Higher Education Commission-Pakistan as a specialized body to introduce and encourage the development of a quality culture in higher education (Batool& Qureshi, 2006).

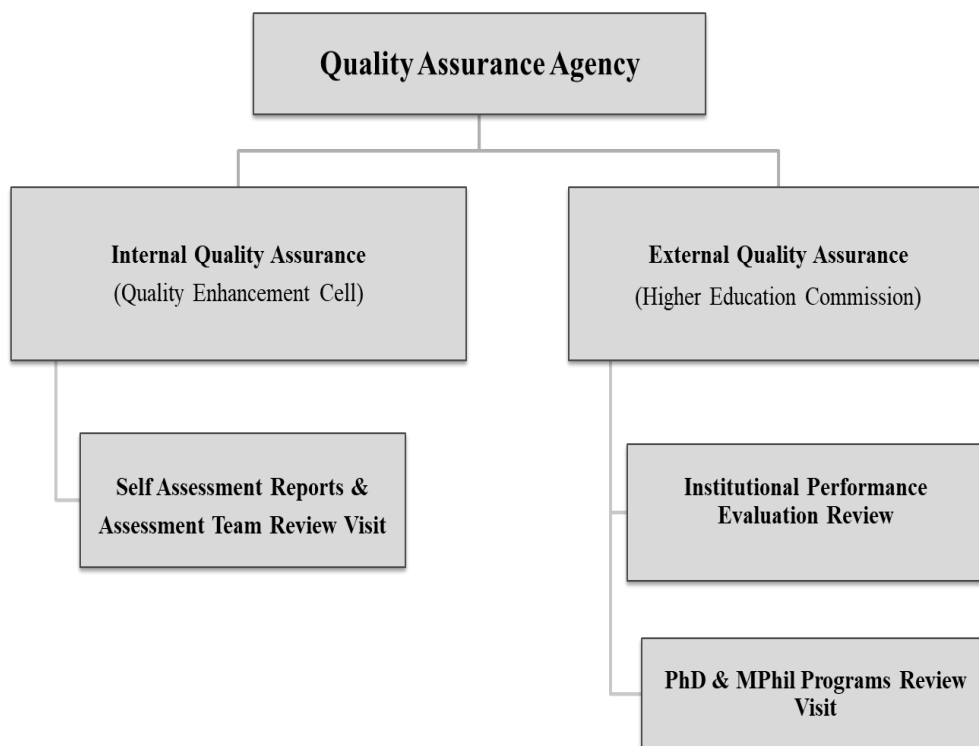


Figure-6 Higher Education Commission Pakistan’s Internal and External Quality Assurance Mechanism Before Covid -19

Higher education commission of Pakistan had not been permitted Pakistan universities to offer online degree programs for several years because of concerns about quality and limited mechanisms for oversight and regulation. COVID-19 has paved an away for authorities to adopt e learning for degree programs in Higher education to continue with the education. Now thanks to covid-19 now restrictions on online learning have been lifted and first time HEC Pakistan is allowing universities to offer fully online degrees. In order not to become an obstacle for innovation and modernization, Quality assurance must respond to the changing higher education vision. Policy makers and QA practitioners at HEIs should devise workable options and suggest way forward to adopt these changes. Addressing to these technological advancements, following is the proposed digitized processes for SAARC countries with quality assurance at each step as mentioned in table 2.

Table 2. Digitized Quality Assurance Processes (Covid-19 Environment)

Sr.	Process	Digitalization	Quality Assurance
a.	Admission Process <ul style="list-style-type: none"> Admission Test e.g. Entry/ GRE/ GAT/ NAT/ SAT Interview on Skype/Whatsapp Course Registration Conduct of Classes through: <ul style="list-style-type: none"> CMS Zoom MS Team 	Availability of online session on Campus Management System (CMS)	<ul style="list-style-type: none"> Real-time conduct of aptitude test on PC with auto shuffling of questions Regional Centers connected to central interview panel HEC Attested Degree Biometrics
b.	Assessment <ul style="list-style-type: none"> Quizzes Assignments Presentations Sessional Examination 	Availability of online session on CMS, Zoom and MS Team	<ul style="list-style-type: none"> Conducted in Computer labs or at home in Covid environment. Uploaded on student account and pop up when opens account Student Teacher relation established on CMS for exchange of assignment, quizzes etc. Marks update within 24 hours of conduct
c.	Feedback from stakeholders <ul style="list-style-type: none"> Students Faculty Employer Alumni 	Availability of Quality Enhancement Module on CMS	Emails to their respective accounts with mandatory check on their accounts (linked with final exam admit card for student and performance appraisals Weightage for faculty)
d.	Post-Graduate Research <ul style="list-style-type: none"> PhD Comprehensive Exam PhD Bi-Annual Progress Review Public Defense 	Skype, Zoom, MS team WhatsApp or any video call-based Software	Examiners, Panels and students are virtually available at designated different locations
e.	Central Data Repository	Availability on	<ul style="list-style-type: none"> Login activity regularly

Sr.	Process	Digitalization	Quality Assurance
	<ul style="list-style-type: none"> • Faculty Folder • Student Folder • Course Folder • Digital Library Software • HR Module • Examination Module • Registration Module • Executive view for Vice Chancellor&senior management. 	CMS	<ul style="list-style-type: none"> monitored • Incentive linked with timely update of account • More than 200,000 books available online • Employee Management System

There is a consensus among academic leadership of SAARC countries that sharing of e-learning experiences is beneficial for all the member states. It is recommended that experience SAARC countries in IT sector like India and Pakistan, and neighboring develop country like China may be consulted for improvement of e-learning infrastructure in other poor developed SAARC countries. Presently less trained manpower is available for development of ICT infrastructure and implementation of e learning at government and citizen level. SAARC countries should implement awareness and IT related trainings for their infrastructure developers, IT experts and citizen. Quality of e learning should be foremost priority of SAARC countries; hence, they should be focused on mutual sharing of online experiences and measures at Higher Education Commission (HEC) or equivalence level for affective e-learning system. A system of regional and global collaboration on the lines of “Washington Accord” should be evolved at SAARC level including peer reviewing for accreditation, uniform Quality Assurance, mechanisms for credit transfer, recognition of qualification and experiences sharing of e-learning. All SAARC member countries are making varying level of progress in different fields like blended teaching and learning, online assessment evaluation and quality assurance mechanism of e-learning; therefore, they all should be benefited by sharing of mutual experiences at SAARC platform. Literacy rate, per capital income, poor financial condition and non-availability of ICT infrastructure are the main hiccups for implementation of e-learning education in SAARC member countries. Keeping all these challenges in view, governments of less developed SAARC countries should focus on these challenges and also acquire help of experienced SAARC and developed foreign countries. In the backdrop of recent Covid-19 pandemic, there is a dire need to develop a comprehensive I-Pedagogy for e learning at the SAARC platform. Higher Education Commission or equivalent bodies of SAARC countries will need to re-think and re-design the way academic programs will be structured and digitized in the future. Any country that wants to enhance the international competitiveness of their higher education needs to embrace international standards of assessment or evaluation for their national quality assurance mechanisms. International experts should be invited to participate in evaluation activities. Quality assurance mechanisms need to be more independent of government through a real third-party evaluation so that higher education can be more accountable and credible.

13. Conclusion

After the outbreak of Covid-19 Pandemic, SAARC countries are facing numerous challenges in the shape of poor literacy rate, financial constraints, non-development of ICT infrastructure and awareness about E-learning. They also are lacking in development of common quality mechanism for E-learning education system. All SAARC countries are required to focus on future education needs, which will be in the form of ICT infrastructure, e learning and development of quality assurance mechanism. Finally, strategies and a favorable ICT environment are required to be evolved for better

and an effective employment of e learning in SAARC countries.

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