# Information and Communication Technology in Sri Lankan Higher Education

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**Abstract**— This review paper focuses on the impact of the information and communication technology in Sri Lankan higher education sector. This highlights the current status of the impacts of the information and communication technology (ICT) on higher education institutes like state universities, private universities, campuses and etc. Computer technology and the internet started to play a big major role in Sri Lanka in the early 2000s. So ICT gradually entered the education sector. But the effect of ICT in higher education was dramatically increased from 2009 to 2013. Instead of traditional teaching and learning methods, new technology was introduced into the Sri Lankan higher education sector to produce undergraduates and graduates that can compete with the rapidly changing world. Despite one's teaching and learning field, ICT is important to all. ICT is not only used for academic tasks but also for administrative tasks in Sri Lankan higher education institutes. With all these impacts, considerable challenges have been made in the higher education sector. Very few research papers have been published under this topic but all of them statistically prove that ICT has made a huge impact on the Sri Lankan higher education sector by giving both advantages and disadvantages to all the stakeholders of both government and private higher education institutes.

**Index Terms** – Education, Information and Communication, Teaching skills,  Technology.

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## 1. INTRODUCTION

ICT plays a huge role in the education sector. It can be seen there is more impact from ICT, on higher education rather than a secondary education in Sri Lanka. The main reason for that is the demand for quality education for everyone. As technology developed gently, knowledge is also developed synchronously. ICT has become the best way to achieve the latest, renewed knowledge quickly and easily. With the development of computer networks and the internet, e-Learning came to the stage. Learning Management Systems (LMS), SCORM and xAPI were developed as the methods to deliver e-Learning. Nowadays Learning Management Systems (LMS) has become the heart of Sri Lankan higher education.

Undergraduates of a higher educational institute or a university are the future knowledge workforce of the country. They must obtain some kind of ICT background with a basic level of computer skills, knowledge and attitudes using modern computer technology. Unless they will not carry out their job tasks and will lead to unemployment or irresponsible knowledge workers of the job work force [1]. This does not involve only ICT majoring degree holders; this involves all the undergraduates following different kinds of degree programs. ICT literacy among university undergraduates is much better than the ICT literacy of the Sri Lankan society. But respective people face so many problems when it comes to improving this ICT literacy in university undergraduates'. Lack of proper technology availability and lack of modern knowledge are the biggest issues of

ICT in the higher education sector.

## 2. ENRICHING ICT

Before ICT started to make a huge role slightly in Sri Lankan higher education since 2005; traditional face to face lecture programs with backboards, textbooks or handouts, and PowerPoint presentations ruled higher education in Sri Lanka. But over the last two decades, ICT has actually transformed teaching, learning and administrating in Sri Lankan higher education to keep up with a rapidly changing environment [2]. Portable Document Files (PDF) was introduced instead of printed handouts and textbooks. Learning Management Systems (LMS) were developed for higher educational institutes and that opened a new window for student-centered learning which based on more accurate information access and use of modern technology. Overcoming the traditional face to face lecture series, distance learning is used nowadays using technologies like Discord and Slack.

ICT has an impact on not only the academic section of the institute but also the administration section. Every non-academic functionality (such as student registration, attendance, payments & fees, course enrollment, grading, etc.) are also now digitized. So the traditional delays and problems that the administration faces every year when enrolling new students to government universities have been overcome. ICT has helped higher educational institutes to cut down their un-necessary costs while increasing their efficiency.

## 3. IMPLEMENTING ICT

The use of ICT in Sri Lankan higher education has encouraged to move beyond the traditional education boundaries. ICT-Driven knowledge could be able to enhance the productivity of the undergraduates and extract their various skills [1].

The major implementation of ICT in higher education is the renovated improvement of the teaching-learning quality with concepts like e-Learning and blended learning. Students have the ability to learn anywhere, anytime. They no need to go the libraries anymore. All required learning resources are available on the internet and also in the LMS. So the students have more time to engage with group activities, lab sessions, practical sessions, and extra-curricular activities. Lecturers also feel more comfortable with teaching without back to a back overload of lecture hours. LMS has made their student evaluation easy by automated online exams and quizzes. Library management systems are used in almost all the higher education institutes to increase efficiency and library engagement by reducing its workload and operation overhead. Universities are now trying to digitize their library facility, so their students no need to physically visit the library. Thousands of e-Books and journals are now being uploaded into university library systems to perform the Digital Library concept.

## 4. CHALLENGES OF ICT IN HIGHER EDUCATION

Higher education is under a huge internal and external pressure to meet the rapidly changing outside environment. Recent government policies have been funding and putting pressure on higher education institutes to use more ICT appliance in both academic and non-academic tasks. As mentioned earlier in this paper, higher education promises that it delivers quality higher education which synchronous with the changing world. A major challenge is the lack of standard parameters that measure the quality of higher education and throughput. Some teachers are not up to date with new technology and that makes a huge impact on the quality of the Sri Lankan higher education. The collision of the two generation knowledge is something very commonly seen in the higher education institutes. That could lead to exams cheatings, plagiarism, copyright violation, etc. , [3]. When considering the state universities in Sri Lanka, they face a huge challenge with the lack of ICT facilities  or financial ability to get proper ICT appliances. We can see some Faculties and Departments with absolutely zero ICT facilities. Another traditional challenge with applying ICT is some traditionally-minded people think that ICT is needed only for ICT based degree programs. Some thinks ICT is not necessary for degree programs like  Arts, Religious, etc. [4].

## 5. CONCLUSION

Information and Communication Technology has been bringing better quality to the Sri Lanka higher education and leading our undergraduates to compete with the frequently changing world. ICT can be hired for both formal and informal forms of education and will bring numerous benefits for all stakeholders of the higher education sector. We argue that technology alone is not an answer to the higher educational challenges looked in Sri Lanka, use of ICT is more concerned in the process of learning and teaching using ICT appliances rather than how they are used. As such, it will feature more powerful and effective ways of combining blended teaching and learning with face-to-face instructions, computer-assisted instructions, and web-based teaching to expand students' learning. ICT teaching and learning tools alike digital libraries, online databases, networking, learning management systems, etc. can be improved through between institutional coordinated effort to guarantee the ideal use of ICT aptitude and assets.

## 6. REFERENCES

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