

Scholarly Output: 2015 ++

A single slide from a presentation entitled "Research Outputs of Sri Lanka and How Expats Can Help" by Prof. Saman Halgamuge of the University of Melbourne, in June 2021 sparked interest among the University of Moratuwa community. This slide reproduced as Figure 1, shows the University of Moratuwa moving from one league to another in respect of Scholarly Output during the period 2015 – 2020. A passing remark by me about possible influencing factors made the Dean, FGS pursue me relentlessly until I wrote this article.

So what factors caused the something positive that happened to our publication trend 2015+ ?

In what quantifiable ways have these factors contributed ? **Are we happy ? What next ?**

Prologue: The few years prior to 2015 were a time of reflection. The previous decades had seen the University battered by the fallouts of civil war, political instability and social unrest; losing academics, random closures, and research surviving under the most difficult of circumstances. Nevertheless, the UoM flag was flying ever so high, along with the reputation of its graduates. The backlog in undergraduate intake was almost cleared. Academics had won a struggle for more government investment in education. With the promise of a good quality of life, young people with PhDs from world-renowned universities had started returning home. The enthusiasm for research among staff and students was increasing. It was time that we started moving from being a traditional teaching University to one excelling in research and innovation!. Consequently, a thrust for enhancing the research culture surfaced in the Corporate Plan 2010 – 2015 and the Strategic Management Plan (SMP) 2014 – 2018. The stage was set. I try to present below some facts and figures surrounding the plan implementation and some outcomes.



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One of the first strategic initiatives was the creation in 2014 of the position of **Director/Research**. The **Senate Research Committee** (SRC) which managed internal research funding was strengthened under the guidance of the Director/Research with generous grant allocations from the University's coffers. In this, the University tried to follow UGC's Finance Circular 1/2013 recommending 10% of the annual capital allocation to research. The monthly **stipend for Research Assistants** was increased by 50%. Following the University of Moratuwa, the same stipend increase was subsequently adopted by the National Science Foundation (NSF) and the National Research Council (NRC), thus benefiting

the entire research community in Sri Lanka. The SRC went on to revamp the reward mechanisms for research outcomes. The evaluation criteria for the University of Moratuwa **Awards for Outstanding Research Performance** were amended several times, raising the bar on the quality of publications as well as introducing awards at different levels. Despite the raised bar, the number of awards increased each year. Recognizing that no matter how good the research is, quality publications cannot always materialize without further financial support, the SRC then initiated **Publication Support** Grants scheme with associated criteria to meet the cost of (open access) journal publication, conference registration and international travel ^{ii iii}. Figures 2 and 3 show respectively, the allocation of different grant schemes of the SRC, and the number of awards made for research excellence during 2015 – 2020

A new **Faculty of Graduate Studies** was on the cards in the SMP. Difficulties of managing an increasing number of research students, and the need to grow further were evident. The Faculty was established in 2015, following an year-long discussion on the wisdom of doing so. Its mandate included streamlining the administration of research degrees, promoting collaborative and multidisciplinary research and creating better visibility for UoM research. Seven **Multidisciplinary Research Centers** were established in 2017. The objective was to strengthen areas where synergies could be derived through collaboration across Departments and Faculties. In another unprecedented move, the University coffers provided seed funding of Rs. 35 Million for the first two years. Many centers proceeded to secure significant external funding subsequently as expected of them. To match and support SRC's evolved awards criteria and publication support, **publication requirements** for research degrees were tightened. A framework for offering joint **PhD programs** with overseas universities was established. So were **fully industry sponsored PhDs**. The ensuing years saw the enrollment in postgraduate research programs rise, particularly in the full-time mode ^{iv}. The graduating numbers followed, as illustrated in Figure 4.



Research Feature

Digital Resource	2015		2016		2017		2018		2019		2020	
	Cost (USD)	Usage	Cost (USD)	Usage	Cost (USD)	Usage	Cost (USD)	Usage	Cost (USD)	Usage	Cost (USD)	Usage
ACM Digital Library	6,329	2,931	6,547	2,658	6,879	2,992	7,273	4,950	7,630	3,874	7,847	1,415
Emerald DB	**	18,778	**	31,108	**	29,304	**	21,488	**	14,220	**	11,766
IEEEExplore Digital Library	56,395	10,175	54,312	23,950	53,770	61,463	55,000	69,740	53,230	87,343	54,830	30,352
Science Direct	69,210	46,162	49,474	44,777	51,948	68,414	55,296	82,547	58,452	49,969	61,811	34,946
Scopus	NS	NS	18,000	17,534	19,080	18,138	20,224	19,863	21,438	26,342	NS	NS

** : Subscribed by UGC NS: Not subscribed Usage: Number of Searches (Scopus), Number of full-text downloads (others)

Table 1: Investment in digital libraries and databases (2015 – 2020)

MERCon^v contributed in no mean measure. Originating as the annual symposium of the Engineering Research Unit (ERU), its objective was to provide a venue for first time publishers and early career researchers. The event grew in stature over the years. In 2015, its 20th year of existence, the symposium transformed into MERCon, the flagship conference of the University that it is today. Since then, MERCon has gained entry into

the IEEEExplore digital library, and hence indexed by Scopus. Today, MERCon accounts for 23% of over 2700 University of Moratuwa - authored publications listed in Scopus since 2015. Of the total 1841 publications credited to the University in IEEEExplore, MERCon accounts for one third. It has achieved an h-5 index of 17 as per Google Scholar Metrics. MERCon has come a long way, spurred on by the dedication of successive self-motivated

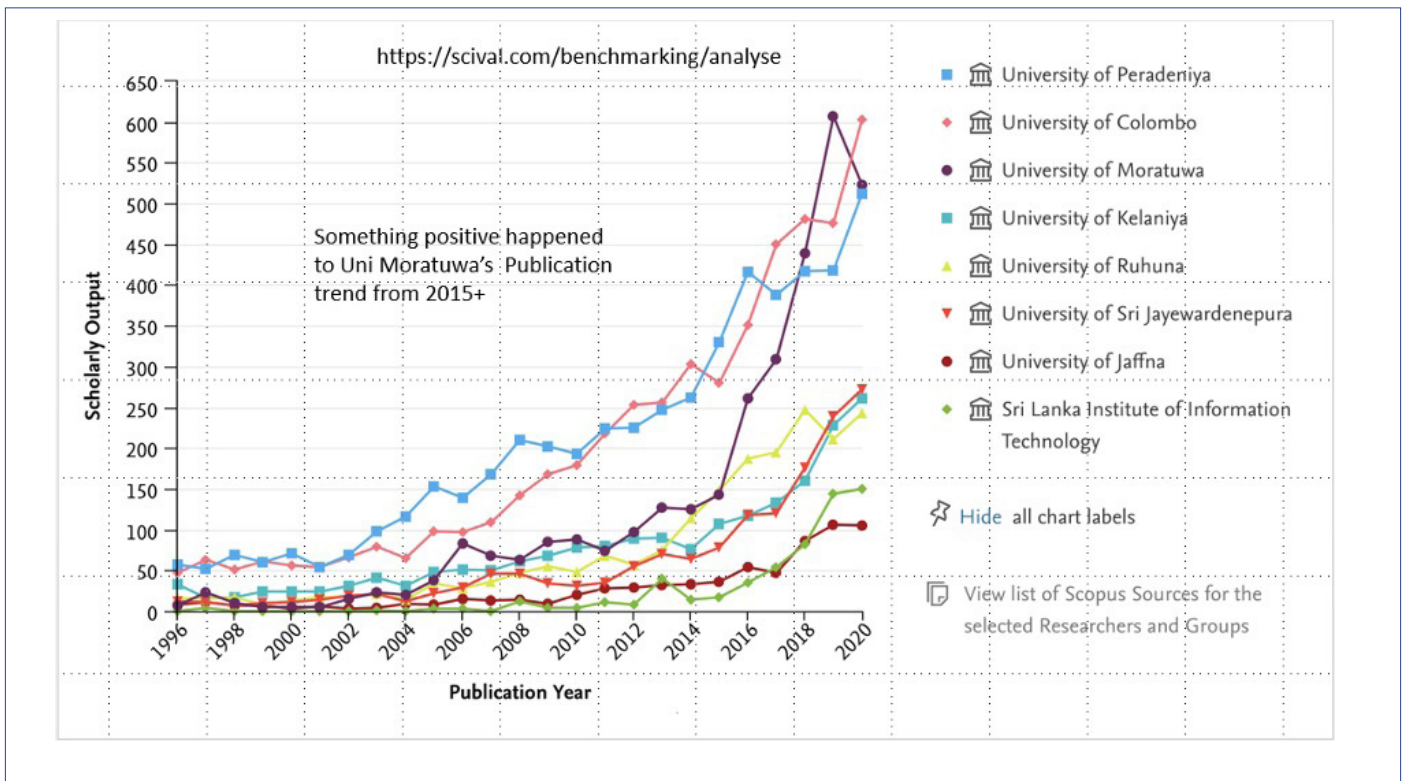


Figure 1: SCIVAL Comparison of 9 Sri Lankan Universities [Courtesy: Prof. Saman Halgamuge]

teams. Faculties of Architecture, Information Technology and Business have strengthened their Research Units as well, and hold annual conferences which are growing.

This story is not complete without the **Library's** role. Research could not have progressed without current publications from around the world available at the fingertips of our researchers. Table 1 speaks for itself about the investment made on **subscriptions to digital libraries and databases** during 2015 - 2020, and the corresponding usage by the University community^{vi}.

There go some possible answers to **What factors?** and **In what quantifiable way?** Though a formal analysis is not within the scope of this article, changes of the post-2015 years are evident.

So, are we happy? We should definitely be, of the efforts and the rewards reaped so far. The lessons learnt are that different facets of the problem to be solved were identified and a multi-pronged, yet coordinated attack was launched. Bold decisions were made administratively, financially and academically. Entities and people worked for a common goal. These have paid dividends, not only in Scholarly Output, but also in making a change in the broader ecosystem for a better future.

What next? Now let us look at Figure 5. Despite not comparing apples to apples exactly, it is evident that we have a long way to go. Further, a breakdown of the 1841 publications in IEEExplore shows 96% (1773) conference papers, and 3% (61) journal papers. Scopus statistics are kinder, with the percentage of journal publications moving from 30% to 35% during 2015 - 2020. The stature of conferences vary widely as do that of journals. Nonetheless, we still have a long way to go. While the described strategies have worked, continuous improvement is the key, and the space for improvement is vast. Examination of Figures 2 and 4 would show directions for more productive resource distribution. Pushing old strategies up notch by notch is one way forward. Some bold new strategies would not

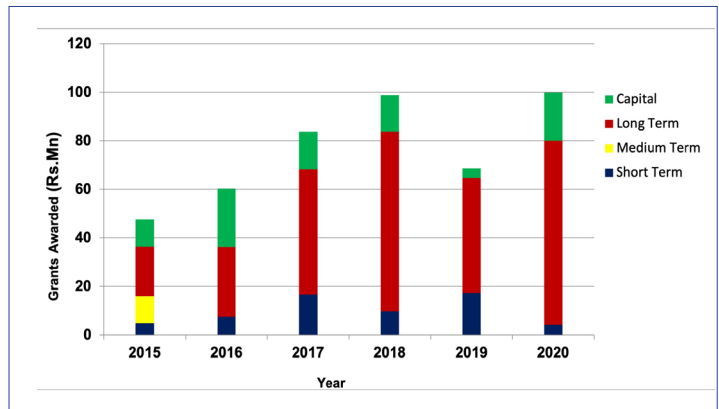


Figure 2: SRC research grants awarded (2015 - 2020)

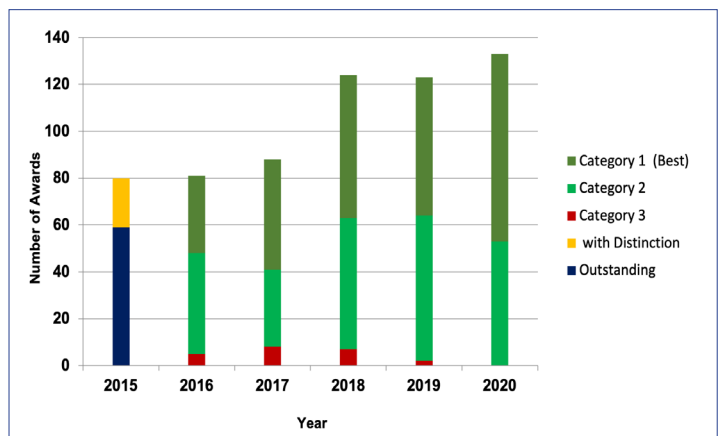


Figure 3: Awards for Outstanding Research Performance (2015 - 2020)

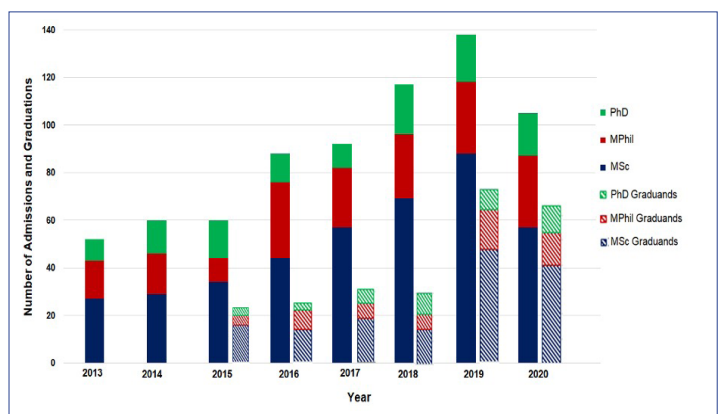


Figure 4: Postgraduate student enrollment and degrees awarded (2013 - 2020)

be too bad either. The need for attracting high-caliber research students and external research funding are ever-present. More multidisciplinary research and collaboration with more established researchers are proven to work. The Faculty of Medicine will have an important role to play. COVID-19 dealt a bad blow. We do not know how deep or for how long it would be felt. The impact on 2020 is already seen, and a recovery plan is a must.

Research Feature

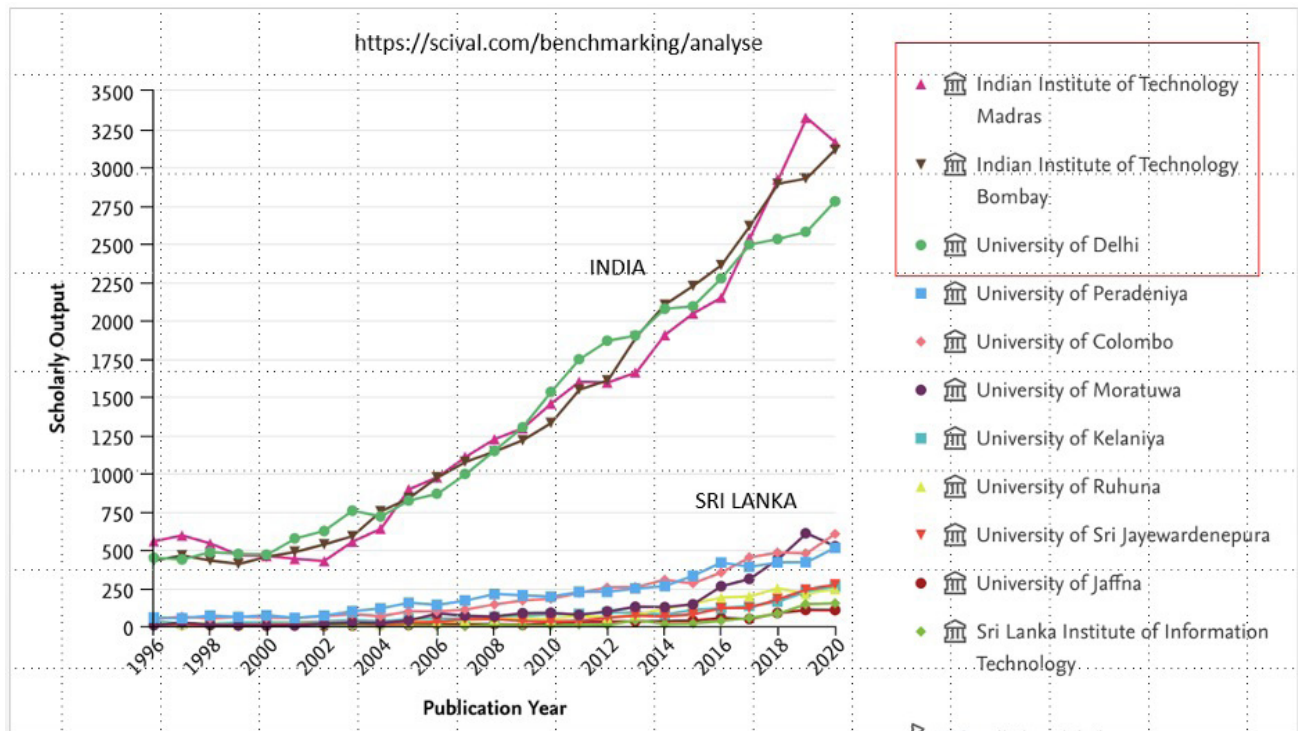


Figure 5: SCIVAL comparison of 3 Indian and 9 Sri Lankan Institutions
 [Courtesy: Prof. Saman Halgamuge]

Epilogue: At the end of the day, what would be the true impact of our research? For some prestigious universities, research is for ranking, then for attracting students and become profitable enterprises, perpetual machines. For some others, it is for the advancement of knowledge that makes a difference to the way we live. Their positions are assured regardless of any ranking system. Where in this spectrum, do we aim for?

References

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