The pressure of "Either Publish or Perish"

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Abstract

The importance of research in education is universally accepted. Driving the past two decades, there have been numerous studies, policy documents highlighting the 'importance of research" which India could reap by improving the research infrastructure in Higher education. The present paper traces the regulatory policy and structure of higher education in India since post-Independence(after 1947) period. A detailed analysis is carried out about the the government emphasis on research front. A critical analysis is carried out of the policy initiatives during these years including the New Policy on Education(1986), AICTE and UGC notification in 2010, the Yashpal Committee Report; the National Board of Accreditation(NBA);the National Assessment and Accreditation Council(NAAC); which has resulted on increased emphasis on faculty research. The paper finally assesses the impact of these efforts and development from the perspective of quantity and quality of research publications.

Keywords: Higher Education, Policy initiatives, Research Bibliometrics, Predatory Journals.

1. Introduction

Once a prince went to a forest for hunting with his entire retinue servants. As it happened, somehow he got separated from his servants. He was wandering alone in the jungle on his horse trying to find either his servants or a way back home to his kingdom. As he was wandering, he noticed a man sitting under a big banayan tree. The man was busy writing profusely in a big notebook. The prince felt curious and moved towards him. The man looked up and found a young handsome man mounted on a horse. The prince introduced himself and asked "you appear to be a learned man, what are you doing in this forest as I noted that you are writing with total dedication? The man bowed to the prince and said that he writes theses and dissertations and sells them to anyone who needs them for a price. He said this is how he earns his living. It is more peaceful in here, so I come here to write these.

The prince wondered and asked "who needs these and what for" the man said "Sir, people buy these theses and submit these as their own work in universities who in turn bestow them with the coveted Ph.D degrees. They can use the prefix "Dr." with their names.The prince felt curious and asked "would you write a thesis for

me as well? I can pay". The man said "why not, sir. In fact a couple of thesis are ready; you can pick anyone of them. The prince picked up a glossy thesis, paid him the price, asked him the way back home and went away.

After a year or so, the prince came back to the same spot. The same person was sitting under the tree and writing intensely as ever. The man stood up and enquired whether everything is fine. The prince said "oh yes". I deposited the thesis in a university and now I have been awarded the Ph.D degree. Thank you very much". The man nodded in appreciation. Then the prince said "I have another request to make" "Tell me, sir. What can I do for you" asked the man. The prince said he loved his horse very much and as a mark of gratitude he wanted his horse to be crowned Ph.D degree "so please write a thesis for this horse" said the prince. The man thought for a moment and said "Sorry sir, I can't do that" The prince thought this man must be worried about his payment. He assured that man that he (Prince) would pay whatever is the price for the thesis. The man said, "sorry sir, price is not an issue. I can't do it as a matter of principle". "What principle? What do you mean?" Demanded the prince a bit agitated. "Sir I WRITE THESIS ONLY FOR DONKEYS, NOT FOR HORSES" replied the man.

This joke is not meant to make fun of the vast amount of genuine research that people have done across the world and over the years. These researchers deserve utmost respect and admiration. The purpose of this article is to highlight the malaise that has set in over the past twenty years-thanks to the misplaced emphasis and pressure put on teachers by various policy pronouncements.

Man is by nature inquisitive. Had it not been the case Adam and Eve would have continued to remain blissfully happy in the Garden of Eden. They say ignorance is bliss; a thinking person is a depraved animal. However the degree of inquisitiveness varies from person to person. Most of the time we are taught to be obedient, respect and obey what our elders say. This in a way may be right but in sometimes kills creativity. The tendency to follow the trodden path hampers innovation. Sometimes there is fun in rediscovering the wheel. Our ancient teachers always promoted the spirit of introspection and churning. The process was three fold, first listen or read, then memorise and finally churn. Keep what you think is relevant, discard the rest. Gurukuls and ancient universities provided an ideal environment for this exercise.

Traditionally universities are confined to the twin functions of teaching and advancement of knowledge. Pandit Nehru, defined the role of universities by saying that a university stands for humanism, for tolerance, for reason, for the adventure of ideas and for search of truth. He further said that universities are essentially a community of teachers and students where, in some way, all learn from one another or, at any rate, strive to do so. Great universities and timid people go ill together. In board terms, the main function of a university is "to seek and cultivate new knowledge, to engage vigorously and fearlessly in the pursuit of truth, and to interpret old knowledge and beliefs in the light of new needs and discoveries.

In order to achieve these goals, it was pertinent to give complete autonomy to the universities. As Bertrand Russell has observed "Where independent thinking dies out there the weeds of propaganda and authoritarianism proliferate unchecked". Thus in order to ensure autonomy it was first decided that the funding authority should not be allowed to dictate. Hence UGC was formed in 1956 for providing grants from the state exchequer. It was not supposed to interfere in the working of the universities and colleges. At another level, it was ensured that universities should function independently of each other, And the most important part was to ensure autonomy within the university; the autonomy of the departments, colleges, teachers and students in relation to the university as a whole. Hence, the teachers in the universities and colleges were not subject to the bureaucratic regulation of reporting for work on fixed timings. Teachers were given the freedom of come and go as per their desire. It was thought that they would understand their responsibilities without any supervision or surveillance. There are three major responsibilities of faculty in higher education; teaching, research, and administration. Faculty are expected to deliver knowledge, undertake research and take back the outcomes of research to classroom. Teachers were expected not only to teach but also to continuously innovate and upgrade the knowledge base of the mankind. Research was considered to be an integral part of their pious duty which required neither a carrot nor a stick. Early research in western countries depict that research has been top priority among the responsibilities of the teachers (Parker, 2008) but in context to our nation, faculty members spend more time on teaching and administrative roles (Bhattacharya, 2015).

However, the lofty ideals on which the higher educational system was build did not live up to the expectations. The universities and their affiliated colleges were found to be churning our graduates with rote learning lacking in creativity or innovative skills. There were only a few islands of excellence among the vast waters of mediocrity. Teachers went on teaching the outdated syllabi with clockwork precision without applying their own minds or carrying out extensive research. The teachers were given fixed increments irrespective of performance and the promotions were also time bound. There was neither an incentive nor penalty for pursuing meaningful research. In due course of time, university and college teachers were incentivized to do research. The teachers could avail fully paid study leave for a period of three years without foregoing their seniority or

length of service to complete their Ph.D thesis and get degree. There was an additional incentive of four advance increments to those who procured Ph.D degrees. This move gave impends to teachers to "obtain" Ph.D degree. But once they were awarded this degree and got the advance increments, it was back to square one. The declining standards of higher education forced the policy makers to have a relook at the system.

2. NEP, 1986

The new education policy (NEP) 1986 tried to shift the focus from creativity and general skills to imparting professional skills so that students could become employable. Higher education was linked to the ability of generating employment. There was little room for research. By the end of the last century, another important development took place, entry of private sector in higher education. The state funded system was found to be unable to cater to the fast expanding demand for higher education. In the next two decades, the private sector expanded exponentially in the field of higher education in general and professional education in particular. There has been a manifold increase in the number of institutions coming up especially in private sector creating increased access to quality education. The two streams which saw the highest proliferation were Engineering and Management. There were a few takers for liberal arts. These developments had an altogether different impact of research activities in colleges and universities.

In this new set up "University education was no longer viewed as a good in itself, but also as the stepping – stone into a higher orbit of the job market, where the student expects a concrete monetary return" as stated in Yashpal Committee Report(1993). In this new set-up with rapidly growing private sector, educational institutions were being known for their placement records. There was a literal quid pro quo: charge the fee with one hand, give me a placement offer with the other. The historical connect between teaching and research broke down. Research was considered an elite activity, reserved only for a select few persons and institutions. Yashpal Committee observed "this disjoint between teaching and research which led to a situation in which, on the one hand, most of the universities were reduced to the status of centres that taught and examined masses and, on the other hand, more and more elite research bodies were being created where researchers had absolutely no occasion to engage with young minds". The National Knowledge Commission in 2006-2009, further elaborated this aspect by recommending that more quality Ph.Ds should be produced. It stated to invigorate research and development in the country, NKC had recommended steps to improve the quality of Ph.Ds. It had suggested massive investment in the education and research at all levels, together with renovation and reform the university system, and the fostering of a global outlook in research. Further, steps were taken to rejuvenate the doctoral program across disciplines and develop vigorous industry-academia interaction. NKC had also recommended the setting up of a National Research Mission to create the required ecosystem in the country.

A notable aspects of these recommendations was to encourage industry-academia research something which was totally absent till then. The NKC gave some very unique suggestions and recommendations to attract potential doctoral students, to improve quality, to nurture research environment and to foster a global outlook in research. It will not be out of place to mention these recommendations in brief here. These are as follows:

- Create greater awareness and acceptance towards pursuing teaching and research as a career, by communicating the opportunities and excitement at a broader level.

- Expose undergraduate and post graduate students to cutting edge research and engage them in serious research whenever possible.

- Restructure incentive for doctoral degree students to attract and retain them in research.

- Create attractive post-doctoral opportunities to provide fresh doctorates with a valuable cross disciplinary research and teaching experience.

- Rejuvenate the Ph.D program and adhere to quality standards to attract talented students.

- Create effective monitoring and assessment mechanisms during the course of doctoral research and encourage broader engagement with research.

- Comprehensive assessment of doctoral thesis and wider dissemination of research work.

- Enable university environment to produce quality Ph.Ds.

- Foster inter-disciplinary research, translational research and basic research and basic research in social sciences, arts and humanities.

- Promote excellence at research institutes and universities.

- Establish more centres of excellence for research and teaching from the undergraduate level for different disciplines across the country.

- Augment available sources of funding, optimise allocation and provide greater flexibility towards utilisation.

- Encourage private participation in research activities by fostering industry-academia interaction.

- Attract NRI/PIO Scientists by providing attractive opportunities in the country.

- Formalise Collaboration with foreign institutions and researchers.

As a results of these recommendations, the regulatory bodies of higher education in India i.e. AICTE & UGC for the first time, made research output of faculty members as a precondition for promotions. (UGC notification, 2010 and AICTE notification, 2010). As per UGC notification, in order to be promoted or employed at the level of Associate Professor, one must possess Ph.D degree. Likewise, for in-house promotions from Assistant Professor to Associate Professor, a comprehensive Career Advancement Scheme (CAS) was drafted and implemented. In this scheme, Academic Performance Indicators (APIs) were specified and given numerical weightage. In order to be promoted, a faculty member must earn a minimum of the numerical weightage assigned. In this numerical weightage, research output of various types was given weights as is shown in the following table:

API score claim of each of the sub-categories (Research and Publications and Academic Contributions) will have the following cap to calculate the total API score claim for Direct Recruitment / CAS

Sub - Category	Cap as % of API cumulative score in application
(A): Research papers (Journals, etc)	30%
(B): Research publications (Books, etc)	25%
(C): Research Projects	20%
(D): Research Guidance	10%
III (E): Training courses and conference /seminar, etc.	15%

In order to make the system more credible, universities could assess the ability for teaching and / or research aptitude through a seminar or lecture in a class room situation or discussion on the capacity to use latest technology in teaching and research at the interview stage. These procedures had to be followed for both direct recruitment and CAS promotions wherever selection committees are prescribed in these Regulations.

It was for the first time that in order to promote research culture among teachers, a "Carrot and Stick" Policy was adopted in place of the "Carrot" only. Promotions were denied and it was linked to salary as well. Faculty members feared stagnation and a sizeable loss of income. This forced teachers to get into a mad race for getting their manuscripts published in whatever type of journal, magazine or periodical. There have been instances where a teacher, who had not published even a single article anywhere during his earlier three decades, suddenly came out with 30 published articles in less than a year. This sudden outburst of research publications have naturally resulted in massive compromise in quality. There are widespread instances of plagiarism, apparently, the move has boomeranged. The remedy proved to be worse than the disease. To make matters worse, the UGC notification of 2018 has further revised the qualifications for assistant professor by making it mandatory to have a Ph.D degree to be eligible to apply for the post of assistant professor in universities. This will come in effect from July, 2021. This will further increase the mad scramble for obtaining Ph.D. degree from any university, any department and in a sense anyway at the earliest. The proposal of the NEP, 2019 to delink the twin functions (Teaching and Research) of and educational institutes of higher learning into either be a teaching institution or a research institution is still far from implementation.

3. Present Scenario: The Enigma of Research Bibliometerics

Research publications of faculty has increased in recent years, but with low impact due to many factors such as low research output of PhD candidates, limited funding for fellowships and lack of international research collaborations.(Brookings India, 2012 report)

There has been a new approach of ranking of university/Institution rankings based on faculty research performance and governments promoting research-driven institutions in India (Sheel and Vohra, 2014). There

are myriad of research indicators and their variants being used to measure the research progress and assess Individual/ institutional performance known as Bibliometrics, which is statistics of publications and their citation counts Reutors (2009). Regulatory authorities have given lot of importance to the quantity of research paper publications, indexing of Journals and indicators such as average IF, citations, in the selection and promotion of teaching faculty as well as selection in giving awards, grants and hardly any weightage to teaching which was considered the primary role of the faculty. Quality research has become an antecedent for other attributes like quality of faculty, education, and supporting infrastructure.

On the other hand, quality of research is a highly subjective and a multi-dimensional domain in academic arena, as it includes elements like research paper writing, attending conferences, undertaking research projects, consultancy assignment, Management development programs(MDP), Executive development program(EDP) etc. The focus on these parameters in higher educational institutions is not uniform. Apart from this there are insufficient resources, inadequate research facilities, and limited numbers of quality faculty in institutions.(Nigam, et al 2020).

Academic institutions are blindly putting the pressure of research bibliometrics comprising of impact factors, citations and the h-index on their faculty in pressure of regulatory bodies like AICTE, NBA, NAAC or ranking agencies like NIRF however bibliometrics may be only one element of the Research metrics as it is a broader term and includes research grants, publication acceptance rates, awards and development of highly qualified personnel (HQP).

Measuring scientific quality of publications is a difficult concept to quantify. Peer review is one of the oldest methods used to assess the research output of Institutions and faculty done by the panel of experts in a particular discipline or domain of study. It raises the quality of publication by evaluating the manuscripts through the reviewers' comments. It is considered as one of the fairest methods to assess quality of research based on its validity, significance, originality and clarity. It helps to distinguish between scientific conclusions from opinion which helps to improve research quality. Peer review has been widely applied in the process of selecting articles for publication(Meek and Lee ,2005)but there is always an element of subjectivity involved in the peer review process which makes it a partial indicator of measuring research progress. A blend of peer-review and bibliometrics has been considered a more acceptable method for measuring research performance(Vaan (2005). Bibliometric analysis is used in many ways; to analyse research outputs within an institutions to offer research based scholarships, measure faculty performance , conduct an institutional SWOT to design future course of action, Selection committees to assess individual faculty performance and Government agencies/ Research Firms for offering research grants (Morphew & Swanson, 2011).

Various Bibliometrics widely used in research include publication count, citation analysis, JIF and research collaboration. Concept of citation was first introduced in 1960 by Eugene Garfield's Institute for Scientific Information known as Science Citation Index (SCI) which further took into consideration the social sciences to produce the Social Sciences Citation Index (SSCI) and later to the field of as Arts and Humanities Citation Index (AHCI). These were actually databases or networks of scientific papers which is currently included in web of science. In the year 1998, autonomous citation indexing which enabled auto algorithmic extraction and grouping of citations for all digital research papers led to emergence of CiteSeerX and Rexa. Other popular databases, Google scholar and Scopus also emerged in early 2000. All these databases apply their own methodology to capture and report data based on subject area preference which impacts the bibliometric measure derived from using each database. Other limitations of databases include the accuracy of the data, bias towards authors and no database indexes every type of publication, and may have different coverage.

Citation analysis includes Citation Count, h-index, i-10 index, download counts and keyword plus. Citation-based statistics can be considered for assessment of research, if it is properly interpreted. Research papers of different areas get cited to different extents, like pure science, engineering and mathematics domain get maximum citations. Certain journals also receive majority of citations further complicating the situation. h-index is based on the number of paper publication of a faculty and the number of times the papers are cited. The issue faced in calculation of h-index of an author is that if h-index is 20 then at least 20 of his/her papers should receive more than 20 citations, regardless of the number of his/her publication. The index ignores actual number of citations received for each paper even if these are far in excess of the number equivalent to the h-index and can thus lead to misleading conclusions. It is actually a wrong measure especially for young faculty who are in the initial stages of pursuing research(Zare, 2012). On the other hand, i10-index which is the number of publications of an author with at least 10 citation and download counts which is the number of unique downloads of a particular paper are considered be a better and a faster predictor of citations(Watson, 2011). The top percentile count are also used in citation analysis which takes in account the most cited papers in a particular subject area in a given year.

Another measure of research is Journal Impact Factor (JIF) of various journals. It is calculated annually and is the average number of citations per article published in that journal. All journals have different impact factors reflecting their importance within its field. (Harvard et al, 2011). Related values, associated with JIF include immediacy index, cited half-life, aggregate impact factor for a subject category, Median and year impact. Impact factors, provided by Clarivate Analytics in their Journal Citation Reports (JCR), are applicable to journals and not to individual articles published in the journals. IF of a journal is also not a true indicator as it is applicable to all papers published in a particular journal and not all papers are cited the same number of times and their variation in citation of all papers included in that journal. Despite the different problems associated with calculation of JIF, it continues to be one of the most acceptable bibliometric indicator.(Cagen, 2013).

The challenge faced in adoption of citation and indexing is that it is not applicable to a book which is one of the important dimension in measuring the research output of a faculty. Older literature published in books is quite significant while conducting research especially in the areas of humanities and social science (Waltman, 2016).

Apart from Citation and indexing, research collaborations in publications is also measured as a metric. Research collaboration is measured according to different disciplines based on authors collaborating from different geographic regions and sectors like Industry and Government. Databases like Incites use both international and industry collaborations and web of science uses Leiden Ranking to measure such collaborations.

Bibliometric techniques have changed with time and able to give a more detailed picture of research papers with origin of a country, by institution and by author as well as the number of citations and co-citations to measure the impact of published work. Each database used for bibliometric analysis has its own criteria for analysis. Every database has its own strengths and limitations. Databases are not classified by speciality which is necessary for generating a more refined research output. Different databases may have different types of literature apart from research articles like notes, letters to the editor, reports, discussions, books, etc. which makes it difficult to compare the research output specifically in newer scientific disciplines.

Wilsdon et al (2015) have asserted about the blunt use of metrics like impact factors of jounals, h-indices and grant income targets affecting the careers of faculty in education. Institutions are only focusing on these research metrics to escape from the ambit of maintaining the minimum requirements of regulatory bodies.

4. Proliferation of Paid/Predatory Journals

In the earlier times, reputed journals were published by scholarly academies, universities and renowned Institutions with the intent to share scholarly work. However in present scenario there is an explosion of journals and conferences as scientific publishing has moved from the domain of professional societies and Institutions to publishing houses where sharing of research knowledge has become a commercialized activity. Many reputed journals are published by leading publishing houses with commercial interests. Various business models have emerged in this area ranging from publication fee, subscription to journal fees and other charges levied by the journals like open access facility, peer review fee etc. There are different kinds of access that journals are providing for manuscripts ranging from Open access, Gold open access, Green open access, Pay per view and Embargo period which acts as a basis of attracting different kinds of payments from authors. Predatory Journals have also emerged in the market which publishes manuscripts on payment of fees without any robust peer review and editorial services. Several authors have discussed the credibility of the articles published in such journals and evaluation criterion used for judging the relevance of published manuscripts. These journals compromise on the quality and promote dishonest researchers who publish in these journals to enhance their credentials.(Butler, 2013; Richtig et al 2018; Francisca & García, 2019)

The binding requirement of research paper publication in journals or conference proceedings for award of the PhD degree by various Universities and calculation of Academic Performance Index scores has been the contributory factors for proliferation of predatory journals. Many journals emerged during the early 2000s ensuring quick publication time, better acceptance rates and low submission fees. This tempted many authors to publish in such journals with low academic standards and hardly any peer review process(Vakil, 2019).

This has led to the requirement of funding for publishing and accessing scientific literature. Majority academic institutions do not have any formal research grants for their faculty for undertaking research work. Publication fee or subscription and it is quite difficult for faculty to pay from their own pockets as the fees are quite high. There are a substantial number of journals in India which publish 'anything' for a fee without any research evaluation process.

5. Discussion

The current developments in research is based on the network between Institutions, Funding agencies and industry with the focus on generating solutions to problems faced by the industry as well as society. Assessing the quality of research can be determined by factors such as originality of the research work, significance, rigour of the researcher and national/international recognition of the research output.

Teaching and research need to be aligned keeping the student at the centre to create an impact on student's learning and holistic development. Research practices by faculty can enrich the classroom experience as well as open possibilities for collaboration nationally and globally. However, in our country student enrolment is highest at the undergraduate level and major portion of faculty is involved in their teaching assignments. Teaching loads are very high and time spent by faculty members on research is very limited(Altbach, 2009). Compensation structure of faculty is also not a motivator to do research and the rewards are based on experience in academics rather on research or innovation(Sanghi, 2010).

Kumar (2017) asserts that in India, faculty needs to undertake productive research and doctoral programs form the foundation of research in the country. Regulatory authoriies like AICTE have associated with Clarivate analytic who along with Chinese Academy of Sciences, analyses the most-cited papers in the last 5-7 years in different subject areas to create associated patterns to reveal similarity among different research papers. This helps to identify current research areas for faculty and helps agencies in deciding the funding of different projects and choice of investigators (AICTE research policy document, 2018)

Research environment with reduced teaching load, financial support, access to better infrastructure, fellowships and industry collaborations can lead to increased research output. Higher educational institutions can provide monetary incentives to faculty based on indexing of the journal and the citation of their papers provided all aspects of citation and indexing are taken in account. Incentives can also be provided on presentation of papers in international conferences, writing books, and undertaking research projects from industry/ Government Institutions. More such initiatives are required at the macro level to create a Research ecosystem in the country.

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