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FROM FALSE EYELASHES TO FALSE RESEARCH; A JOURNEY OF RESEARCH INTEGRITY PROBLEMS AND PROSPECTS IN PAKISTAN

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Abstract:-

Pakistan has recovered from the intellectual stagnation but it has not come without pains. The current paper proposes and tests a set of possible determinants affecting Research Integrity in Pakistan. Cross sectional data was collected from 5 major Universities of Pakistan, through a self-administered survey of 150 respondents. The appropriateness of theory and conceptual framework were tested using structural equation modeling (SEM). The extended model accounted for the substantial amount of variance in integrity of research conducted in Pakistani Universities ($\chi^2/df= 1.003$). Specific findings revealed that 1) all predictors except Pressure to Publish were significantly related to Research Integrity 2) Degree Requirement and Junk Thesis Supervision emerged as strongest predictors of Research Integrity. Paper suggests a revival of thoroughly rotten academic system of Higher Education Commission of Pakistan.

Keywords: - *Research integrity, Pakistan, Higher Education Commission, education.*

INTRODUCTION

Researchers and research institutions are universally charged with the responsibility of maintaining the research integrity. What is research integrity? The term "integrity" has proven difficult to define in this context, as its usual synonyms (e.g., honesty, truthfulness, accuracy, rightness, incorruptibility, honor, and propriety) fail to capture its full connotation. Standard definitions often include the idea of wholeness, reflecting the word's origin in the Latin integer, meaning whole or complete

The term's value to the research community is however more dependent on practical usage than on conceptual specificity. In practice, integrity is a matter of trustworthiness, and so the Singapore Statement (World Conferences on Research Integrity, 2010) written to provide guidance on research integrity worldwide, identifies integrity with the trustworthiness of research. Research findings have integrity if they can be trusted by researchers who will learn from and build on those findings; by practitioners who will base decisions on them; and by funders, institutions and publishers whose credibility is linked with the results they support and promote (Resnik & Zeng, 2010).

Office of Research Ethics and Integrity (OERI), 2010 defines research integrity as the trustworthiness of research due to the soundness of its methods and honesty and accuracy of its factual presentation. Anderson et al. (2013) states in their research that Research Integrity is the foundation of the public trust in academic research system. It is the very basis for continued investment and reliance of different bodies on scientific research findings for the sake of decision making. Integrity is also a bedrock value of the general community, but its importance is absolutely heightened when it comes to research. Because research warrants many academic/industrial decisions, compromise on the integrity of research through misconduct, manipulation and duplication means an open threat to the economy in which its results are integrated and implemented. Past couple of years has witnessed a momentum in the research outcomes but this progress has not come without growing pains. Resnik and Zeng (2010) established research integrity to be an international concern. Publically funded research projects in US attracted much criticism in the decade of 1980-1990's. From 1990's onward the problem was not confined to the US only, it was widespread and sought serious treatment.

Research in Pakistan

Pakistan has undergone through pronounced transformation in the research field from past couple of years. Past decade has witnessed a mushroom growth in research projects and publications which has significantly helped Pakistan in recovering from the intellectual stagnation effectively (Rehman, 2011).

Pakistan always somewhat lagged in the field of higher education and advanced research. While the rest of the world was witnessing a tremendous escalation of what it felt like a peak of academic research and development, the concept was somewhat nascent and was on its embryonic stage in Pakistan. However the academia picked pace and with what research gradually recovered from halt (Rehman, 2013). Rode (2008) wrote in her report that she conducted on behalf of United Nations Commissions for Science and Technology that She has never witnessed such rapid escalation in higher Education anywhere as this in Pakistan and that in a short span of six years. Her detailed report further unveils that from a brief period of 5 years from 2003 to 2007, 3000 PHD's were funded which was far more than ever funded in the last 40 years. Likewise university enrollments also tripled within this time frame. In another report a Senior US educational expert in his report on behalf of USAID applauded the progress of higher education in Pakistan (Hayward, 2002). But the real questions remains are these glowing PHD statistics promise the research integrity too? That is what this research intends to solve.

Literature Review

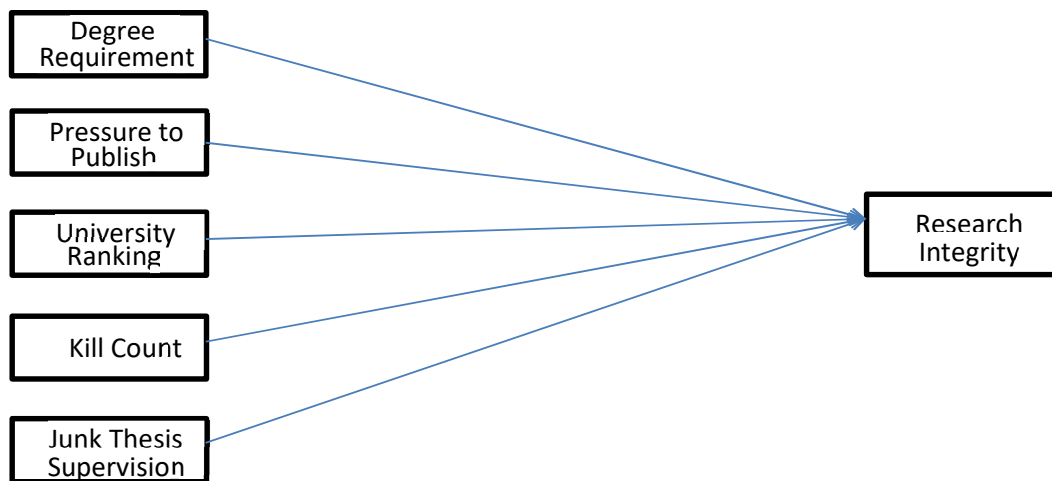
Pakistan has no doubt gained advancement in research and education but that does not come without pains. Like many other countries Pakistan has its share (which is fairly significant) in academic corruption. From the last two decades scholars have registered their concerns regarding academic research. By the wake of 1990's Pakistani scientific journals became alarmed about ethical problems with published research, especially plagiarism. Following years have witnessed a tremendous escalation in the fake journals and copy/paste research papers with zero novelty and theoretical/practical significance. Worse news is Phd supervisors were allegedly involved in the several cases of plagiarism. Statistics took a quantum leap to the worse when a scholar holding a senior level position at Quaid-e-Azam University was allegedly found forging the confidential external thesis evaluation document. By the way Quaid-e-Azam is considered to be the best research institution in Pakistan. The case was followed by another such instance where a faculty member at some prestigious university in Lahore was found to be reproducing the papers already there on internet. Worst part of this whole story was that even after the admission of guilt no disciplinary action was taken by Higher Education Commission against them. Both of the alleged scholars taken early retirement and moved to some other Government institution even at more senior position than before. Frustrated by this an independent researcher and Faculty member at Lahore University of Management Sciences, Dr. Hoodbhoy (who has by the way previously taught at Quaid e Azam University for 36 years and remained the Dean of Physics department too) conducted an autonomous research and posted his findings under Express Tribune on 2013 in a form of a series of articles. He quoted several first hand cases and established that with no change in the quality of actual researchers Pakistan started producing bumper crop of research publications year after year. He accounted this corruption and deteriorating state of research to mal-policies of the Higher Education Commission Pakistan. Students take research just a

“Formality” for degree completion. They are not actually interested into conducting research and producing results of practical and theoretical significance. A recent online survey has indicated that academic research in Pakistan is totally shallow and theoretical with zero links to the industry. In an ideal situation academia and industry should not operate stand alone. Industry should contact academia to contract students to conduct research on their behalf. This way research would obviously be erected around some real problem and findings produced out of this research would be of some actual use. I am not entirely against the theoretical research strengthening and positively contributing to already existing body of knowledge. I also totally understand the fact research does not always have to follow an already existing problem on hand but it can be undertaken to discover new worlds and possibilities. But the research and education system in Pakistan is thoroughly rotten and overly theoretical. Students conduct research with pre-accepted results and Universities on the hand let them escape as more publications (fake/real does not matter) translate into higher university rankings. The situation goes unaccounted every time because it is a win-win for both of the parties after all i.e. students getting their degrees and university clocking up publication on their behalf thus enhancing their rankings (Hoodbhoy, 2012). In this free fall, morals of research supervisors also fell to ruins. Hoodbhoy, 2013 stated that liking professor’s promotion with the number of publications and research students supervised turned academic research into something with deteriorated morals and with the results that no one cared for.

These ill policies of HEC have given rise to the kill count culture and Junk thesis supervision. This is the requirement of almost every university in Pakistan to get your research thesis published; this is one of the many requirements of degree completion in Pakistan. The pressure to publish culture has given rise to the fake journals which receive payments from researcher and publish their article overnight. This whole system is viciously inter-connected. Dr. Hoodbhoy articles were answered by the Dr. Rehman, then HEC chairman. He in his online article brushed all the points off and said there were only few cases of misconduct which were duly taken care of. He called this whole thing a personal Vendetta of D. Hoodbhoy and established since his employment contract is not renewed with LUMS so he is just taking it personally and retaliating by taking the rage to internet (Rehamn, 2013). However quite recently in 2015, Daudpota in his article has supplemented the Dr. Houdbhoy account and established the similar facts. He too conducted an independent research and his research led to the finding of many fake journals one of which was [is] a racket In Faisalabad (Daudpota, 2015). He wrote the matter to HEC but nothing significant was done. Due to this mal-functioned system this racket has now offices in major cities (Bael, 2015). The author calls for an action to nip these journals and fake publications.

Theoretical Framework

On the basis of the above literature following model can be proposed



The above proposed model intends to check the effect of five independent variables on one dependent variable i.e. research integrity.

Methodology

The current study draws sample from the population of twin cities of Pakistan I.e. Islamabad and Rawalpindi. The individual (students in this case enrolled in their MS and PhD’s) is the unit of analysis. Questionnaire survey was used to collect data. The objective of research was to ascertain the effect of different variables (established through literature review) on research integrity. Survey Questionnaire was self-administered to a convenient sample of 150 students from 5 HEC recognized Universities. Out of these, 25 respondents were not considered on the account of incomplete responses. Finally 125 respondents qualified for final sample size. Each variable was measured on a 5 point Likert scale where 1 denotes “strongly disagree” and 5 denotes “strongly agree”. No item was reverse coded. Questionnaire was pre-tested on 10 individuals to establish the scale reliability and validity. Data analysis was done using SEM, Amos. SEM is preferred over OLS (ordinary least square) for multiple reasons i.e. it allows both confirmatory and exploratory modeling. It can be

used for both theory testing and theory development (Alavifar, Karimimalayer & Anuar, 2012). One of its major strengths is, it allows constructing latent variables (variables that cannot be measured directly) and measuring complex models.

Data Analysis

Scale reliability test is one of the prerequisite for running further statistical tests on data. If its basic assumptions are met then further statistical tests are being warranted. Cronbach Alpha is used to establish the data validity. Cronbach's alpha is an index of reliability associated with the variation accounted for by the true score of "underlying construct". Whereas a construct is a hypothetical variable that is being measured (Hatcher, 1994).

Table 1 Scale Reliability

Latent Variables	No of items	Cronbach's Alpha Coefficient	Items Re-moved	Revised Cronbach's Alpha Coefficient
DR	3	0.901	0	0.901
PP	2	0.943	0	0.943
UR	3	0.899	0	0.899
KC	3	0.989	0	0.989
JTS	2	0.902	0	0.902
R1	4	0.525	1	0.997

Cronbach alpha values range from 0 to 1.0. Values greater than and equal to 0.6 are considered acceptable. All of the above values are highly reliable; one of the items on research integrity has been removed to attain a valid reliability score. Data validity is established through Convergent validity, data shows that regression weights/factor loadings are greater than 0.5 whereas SMC's are equal to and greater than 0.7.

Once the data reliability and data validity are established we can move towards the Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM). CFA is used to measure the model fit. Our model fit shows that Relative Chi square is 1.003 (ranging between 1 to 3), which is best fit (Schumacker & Lomax, 2004). Comparative fit indices (CFI) is 0.967, indicating a best fit. It is a very important measure as it compares the fit of a target model to the fit of an independent model (a model in which variables are to be uncorrelated). Precisely it represents the extent to which the model of interest is better than that of the independent model. Whereas Root mean Square error of approximation (RMSEA) is 0.03, which is best fit since it is less than 0.05. AGFI is 0.901 whereas GFI is 0.989, both of them are greater than reasonable fit of 0.90 (Byrne, 1994; Nazish, 2015)

Causal Path	Standardized Regression Weights	Un-Standardized Coefficient	t-value	Hypothesis Supported
RI<---DR	0.540	0.18***	2.99	Yes
RI<---PP	0.001	0.01	1.37	No
RI<---UR	0.123	0.13**	3.63	Yes
RI<---KC	0.119	0.08*	0.73	Yes
RI<---JTS	0.328	0.22***	2.01	Yes

R² = 1.003, CFI = 0.967, GFI = 0.989, AGFI = 0.901, RMSEA = 0.03, RMR = 0.02.

Total five hypotheses were proposed out of which four were duly validated and supported through SEM statistics.

Discussion

The hypothesis between Degree Requirement and Research Integrity is highly significant with a regression weight of 0.540. Regression weight basically shows how much independent variable affects dependent variable in a relationship. About 54% change in Research Integrity is caused by Degree Requirement. Most of the students reported that they conduct research just because it is a degree requirement. Another 32% of change in Research Integrity is brought about by Junk Thesis Supervision. Ideally one supervisor should supervise two thesis maximum but during data collection it was revealed by many students that one supervisor has taken 20 to 25 students in different universities. Many of the respondents complained that they have to wait for long hours just to get 30 minutes of their supervisor. Typically a student gets 30 minutes of their supervisor time which they deem inadequate. Universities on the other hand are concerned with producing bumper crop of MS and PhD students as this is going to get them high rankings. Pressure of publication on the other hand does not have any significant on research integrity as in Pakistan in most of cases no publication is required (preferred though) for admission in PhD. The empirical results obtained in this study are consistent with the theoretical background and also with the general belief on the subject matter.

Recommendations and Conclusion

The academic system in Pakistan is thoroughly rotten; a total 360 degree revival of academic system is the solution. A first step is to put an end to the policy of paying hard cash for research papers and to stop awarding promotions and honors based upon paper count. Equally important is to discourage the mass production of PhD and MPhil degrees. Academics cannot be fairly rated or rewarded by some automatic one-size-fits-all formula.

Without doubt, the HEC's quality assurance program has failed. There is an urgent need for an internal and external review followed by the institution of a robust system that maintains transparency and restores the integrity of research publications and higher education in Pakistan. One hopes that such a change will not be relegated to endless committees. The treatment is known; it is time for action.

The above recommendations aside, the probable result of simulated model offers a framework for theorists of academic research body of knowledge. In addition, its practice based approach has the potential to be used by visionary education strategists and decision makers in guiding to have more sustainable research orientation.

Moreover, while it is believed that the present study has contributed to a detailed and more indepth understanding of the underlying factors accounting for the performance of educational institutions, the results of the study should however be interpreted with caution and viewed for more thorough follow up research. And lastly, though not yet tested, it is envisaged that the proposed model will provide the robust, detailed, constructive and executable insight about the academic research in Pakistan.

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