E-ISSN:2583-1747

Research Article

Research Performance

Management Journal for Advanced Research

2026 Volume 6 Number 4 August

Publisher

Singh Publication

www.singhpublication.com

Assessment of the Factors Affecting Academic Research Performance of Select Indian Private Universities

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DOI:10.54741/MJAR/6.4.2026.326

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Purpose: The globe aspires to better its performance in this competitive climate because improving performance is a universal desire in many domains, including academics. Consequently, the higher education sector is paving the path for a more refined, capable, adaptable, and sustainable future. Many Indian private universities are working hard to expand their global presence. But unable to make their presence felt within the top 100 globally. According to research studies, three critical dimensions for Higher Education Institutions (HEIs) are teaching quality, research quality, and globalization, with the latter two receiving little emphasis(Prakash, 2018). Our research will primarily focus on academic research performance among these dimensions. Academic research performance is a significant challenge for sustainable performance and development. Academic research performance can be conceptually understood by breaking the term into two syllables: research and performance (Bazeley P., 2010). The purpose of this empirical research is to identify the impact of the factors on academic research performance in the selected state private universities of India. In this quantitative research, the participants comprised 335 faculty members from selected state private universities, conducted in four states of India: Assam, Himachal Pradesh, Punjab and Rajasthan. Primary data were collected by administering a survey questionnaire with an instrument that consists of 29 items across a 5-pointLikert scale for all the constructs. Based on t-statistics and p-values, learning and development, reward and recognition, and research funds are not significant, whereas research collaboration is significantly related to academic research performance in the Indian context. The findings would allow stakeholders to optimize processes, improve outcomes, assist researchers and institutions to advance knowledge, and manage societal concerns effectively.

Keywords: research performance, management practices, research predictors, research output

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Adreeja Chowdhury, Assistant Professor, Department of Management Studies, Institute of Leadership, Entrepreneurship and Development, Kolkata, West Bengal, India. Email: adreeja.chow@gmail.com	Chowdhury A, Hans A, Muduli A, Assessment of the Factors Affecting Academic Research Performance of Select Indian Private Universities. Manag J Adv Res. 2026;6(4):20-32. Available From https://mjar.singhpublication.com/index.php/ojs/article/view/326	

Manuscript Received	Review Round 1	Review Round 2	Review Round 3	Accepted
2026-07-08	2026-07-23			2026-08-15

Conflict of Interest	Funding	Ethical Approval	Plagiarism X-checker	Note
None	Nil	Yes	3.26	

1. Introduction

In the current global economic scenario, higher education institutions (HEIs) must deal with increased turbulence, volatility, and complexity, which pave the way for increased collaboration, innovation, and creativity in their solution-finding.However, these variables do influence and define student happiness, university ranking, and a HEI's international reputation (Padlee et al., 2020) The need for research papers has increased as a result of globalization, both in terms of number and quality (Dale, 2007). As a result, originality, creativity, and innovation are the catchphrases for HEIs' high calibre research output (Bazeley P., 2010). The fiercely competitive HEI market is seen to be involved in fierce competition when it comes to rankings and certification, as seen by organizations as TIMES university rating, QS ranking, NIRF ranking, NAAC accreditation, etc. (Padlee et al., 2020). In terms of size, scope, and student enrollment, the Indian higher education system is the biggest in the world, according to the Ministry of Education, the University Grants Commission (UGC), and the All India Survey of Higher Education (AISHE). The Times Higher Education World University Ranking (2024), QS World University rankings (2024) highlights none of the universities are within top 20 globally and including Indian state private universities unable to manage within 100 ranks. There's a huge gap in Quantity and quality of higher education institutes need to be addressed. Even researcher studied the need to create a strong network of institutes in humanities, social science, field of advance science and technology. Here only 25% to 30% of the universities are accreditated by NAAC (National Assessment and Accreditation Council). Hence a robust model required for the Indian higher education institutes development (Tilak, 2020; Tilak J., 2010)

Global platform rankings and comparisons eventually expanded the opportunities for excellence in research at the individual, institutional, and societal levels. International view, academic reputation, research output, research influence, teaching quality and learning and development are the main factors that go into rating universities worldwide. Research productivity is a key component in raising a university's ranking and a useful performance indicator of academic staff and higher education institutions.

This has a big impact on stakeholder decisions, student decisions, institutional reputation, and collaboration. Students, scholars, and organizations use them to evaluate and contrast universities according to certain criteria. The Indian mushrooming of private universities has created a significant discrepancy in quality and quantity with the notable absence of the Indian top-ranking universities in a definite list of the global ranking. To address these gaps, the current research focuses on the Indian private universities and uses a complex, comprehensive analytic method to examine the research output India's innovation ecosystem and overall worldwide ranking will not improve without sustained attention to strengthening institutional support, governance, and regulatory frameworks. Considering into account the significance of research performance in higher education institutions, we have endeavoured to examine the extant literature that highlights the academic research productivity of HEIs worldwide.

2. Conceptualization

Academic Research Performance

Conceptually, academic research performance can be explained by dividing the term into two syllables: research and performance(Bazeley P., 2010). Research activity (engagement, task orientation, research practice, intellectual processes) and dissemination (distribution, collegial engagement) are the two essential elements of academic research performance. Hence research consists of several research activities, research performance is the resultant outcome expressed through HEI's research performance measured through no of PhD completion, publications and research grants (Valadkhani & Worthington, 2007). The efficiency and effectiveness with which scholars produce new knowledge and advance their area through publications, contributing in conferences, and other scholarly endeavours is referred to as academic research productivity. It frequently includes metrics like the quantity of articles produced, the impact factor of the journals in which these articles are published, the number of citations obtained, and the total number of research projects finished. In other words, research performance is the combination of research output and its impact through publication count, citations, impact factor of the journal, research patents etc. in the context of higher education institutes.

Research output is evaluated on the basis of indicators which further divided into author's evaluation (publication count, citation count, h-index, e-index, g-index, i-10) and journal evaluation (impact factor, eigen factor, AIS, SJR, and SNIP), as well as database tool (Choudhri et al., 2015). Research quality has been measured through several parameters. For example, peer assessment is the most popular tool for determining research quality in the UK. The use of citation indicators has increased in research evaluation. The research performance is generally described with the help of bibliometrics within the research system.

Management Practices

Management practices refer to several managerial policies and practices that are implemented or used by HEI's for higher research performance. Conceptually, management practices are relevant for higher organisational performance and are often popularly known as high performance management practice or high-performance work system or high-performance HR practices. Research on Australian public universities acknowledged management practices is significantly correlated with academic research performance (Beerkens, 2013). A study on professors Perdomo-Ortiz et al. (2020) of the public universities of Colombia elaborated that education, training, and the promotion of autonomy in the researcher's position contribute to the improvement of academic research productivity and also ARP has a beneficial and significant association with methods that foster mentoring and teamwork. Management practices build the path for effective research performance. Although few studies have been conducted (MacGregor et al., 2006; Edgar & Geare, 2011; Perdomo-Ortiz et al., 2020), to understand the significance of management practices, policies and culture. Hassan et al. (2008) recognized that professional learning in a supportive environment is a factor linked to research output along with ability, opportunity, motivation. This showed that institutional policies or practices could account for university performance.

3. Hypotheses

Factors of Management Practices and Academic Research Performance

Research productivity is impacted by the learning and development environment (Quimbo & Sulabo, 2013; Edgar & Geare, 2011; Bazeley, 2010).

Research has shown that in order for professionals to broaden their horizons and develop new skills, they should incorporate ongoing professional learning into their daily work (Perdomo-Ortiz et al., 2020). This improves research aptitude, expertise, and understanding, all of which have an overall impact on academic research performance. A few brief learning and development initiatives that support HEIs' research performance are workshops, seminars, symposiums, conventions, conferences, and discussion groups (Edgar & Geare, 2011). A study by Perdomo-Ortiz et al. (2020) acknowledged that the effectiveness of the faculty development program in terms of expense and output is directed by the institute's objective and administration's eagerness to face the challenges, and implement such managerial practices to generate a better performance. According to a study by Perdomo-Ortiz et al. (2020), the institute's goal and the administration's willingness to take on new challenges and apply these managerial practices in order to improve performance and to determine the effectiveness of the faculty development program in term of cost and output. As a result, the idea of faculty development is growing and changing, with a focus on research abilities in addition to teaching abilities for a comprehensive change.

These results lead us to propose the following hypothesized relationship:

H1: There is a significant impact of learning and development on academic research performance.

Higher education institutes (HEIs) may enhance productivity in research if their management practices promote teamwork in collaborative research. Research collaboration has become essential to promote innovation and knowledge exchange, which in turn attract industry funding and benefits both individuals and institutions. Studies Aldieri et al. (2018) conducted on European nations, including Germany, France, Italy, the UK, and Russia, have shown that both internal and external research collaborations have a good effect on academic achievement, with geography playing a major role in this relationship. Co-authorship improves performance and collaboration in research-intensive US colleges, but when the number of co-authors rises, the impact on the quality of the research is negative (Youtie & Bozeman, 2014).

The researchers proposed that by displaying co-authorship credits, fairness and transparency in collaborative research might be ingrained, hence improving research productivity. According to a study on international collaboration by Haley, (2022) productive research partnership produces information and fosters stable, long-term growth for both institutions and individuals. It even involves open sharing of ideas, open communication, developing younger researchers by mentoring and generating better performance (Haley et al., 2022; Perdomo-Ortiz et al., 2020).

These results lead us to propose the following hypothesized relationship:

H2: There is a significant impact of research collaboration on academic research performance.

Academic research performance of the HEI can be positively or negatively impacted by management policies and practices linked to reward, recognition, and incentives (Perdomo-Ortiz et al., 2020). According to Edgar & Geare (2011), the reward system pushes workers to surpass expectations and keeps them motivated. Academic career pathway schemes offer a defined path for career progression, catering to both teaching and research. Employees are incentivized to go above and beyond in their work performance by receiving additional responsibility rewards for taking on obligations outside their job description. The university awards the advanced contribution bonus based on projections of the individual's performance over the next four to five years. At Oxford University, incentives and recognition are provided to uphold the value and behaviour framework. One example of this is the departmental Award for Excellence system. For instance, research by O'Meara, (2011) on US colleges discovered that tenure periods, merit pay, faculty pay, and promotions all promoted openness and integrity regardless of gender or race by putting the relevant criteria choice on an internet platform that was open to inspection. All the faculties would feel more motivated, equitable, and involved as a result. Subsequent research revealed that these incentives determined faculty members expected future behaviour and obligations toward the aligned task in addition to their current performance(Quimbo & Sulabo, 2013).

According to Perdomo-Ortiz et al. (2020), academic researchers are incentivized to modify their research endeavours in accordance with the reward and incentive policies of the university.

These results lead us to propose the following hypothesized relationship:

H3: There is a significant impact of reward and recognitions on academic research performance.

Academic research performance is connected with research grant received by the researcher and the institution. One of the most important variables influencing research output is the availability of funding (Quimbo & Sulabo, 2013). Edgar & Geare's (2011) study on universities in New Zealand brought to light the importance of research funds and their accessibility in bolstering departmental or institutional cultures. According to the report, HEIs in New Zealand give funding for research a higher priority when determining performance standards. Quimbo & Sulabo (2013) discovered that research funding and reward programs in Philippine universities motivate researchers to do better work. In India the public funding system for universities has been shifted to performance-based funding in 2013 by the Minister of Human Resource Development. Accordingly, colleges that are successful in obtaining research grants are also successful in disseminating excellent research (Gralka et al., 2019). Bazeley P. (2003) conducted a study on the Australian Research Council's special effort in research funding schemes for early career academics, which would enhance their competencies and inspire them to pursue careers in academic research. Economic survey as of 2025 highlights India devotes between 0.6% to 0.7% of its GDP (gross domestic product) to research and development. This illustrates India's progress in research and development, although there requires an improvement when compared to world leaders in research and development and expenditure.

These results lead us to propose the following hypothesized relationship:

H4: There is a significant impact of research fund on academic research performance.

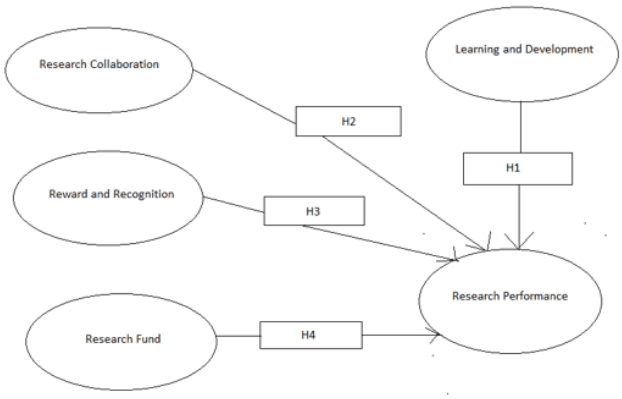

Figure 1: Hypothesized Model

4. Research Methodology

The study seeks to investigate the effect of management practices on academic research performance. Since aims to identify the association or relationship between the variables hence it is correlational research. The empirical data was collected by sharing survey questionnaire to the respondents through mail in April-July 2026 in a brief cross-sectional time frame. This quantitative research is conducted on state private universities of India. The private universities are selected on the basis of state wise weightage received as per NAAC accreditation and total state private UGC affiliated universities count. On this basis selected states are Assam, Himachal Pradesh, Punjab and Rajasthan. Considering NAAC accredited universities of the selected states, have total 10,605 faculty members (Both PhDs and non-PhDs). Here management practices are subdivided into learning and development, research collaboration, reward and recognitions, research fund. Considering the dependent variable academic research performance, there are five constructs. To collect the information questionnaires were adapted from (Perdomo-Ortiz, et al., 2021; Tones & Pillay, 2008; Kelly et al., 2019).

Sampling

Cochran's 1977 formula, which is suitable for large populations, was used to calculate the sample size. The first sample size was determined to be 384.16 with a 95% confidence level (Z = 1.96), an estimated population proportion of 0.5, and a 5% margin of error. Cochran's finite population adjustment was used to reduce the sample size to 371 given the real finite population of 10605 respondents from 4 state private institutions.

In addition, the sample size was reassessed in light of the study's 29 measurement indicators and the advice to have at least 10 respondents for each indicator in order to guarantee accurate factor analysis and model estimate (Hair et al., 2010). The sample size is therefore changed to 290. There were 335 responses from the four states that were selected. Non Probability sampling is done where purposive sampling method is used. A total of 700 questionnaires were administered to both PhDs and non-PhDs where 335 were received. Questionnaires were administered to faculties with PhD, Non-PhD and Master degree where PhDs-213 Pursuing PhDs-78 and Master degree PhD not registered-44. From among the respondent, 69.2% male and 30.7% female from Assam- 12.2%, Himachal Pradesh-15.8%, Punjab- 33.13%, and Rajasthan- 38.8%.

Measurement Instrument

Based on extensive literature review final survey instrument consists of 29 items developed to collect data and measure management practices with academic research performance. Learning and development-9 items, Research collaboration-4 items, Reward and recognitions-5 items, Research fund-6 items, Academic research performance-5 items.

Learning and Development

The 9-item scale was developed and validated by (Tones & Pillay, 2008) and (Perdomo-Ortiz et al., 2021). Here the indicators are communication, research skill, academic skill, research training program, management support, Senior support, feedback. The rating scale ranged from Strongly disagree-1, Disagree-2, Neutral-3, Agree-4, Strongly agree-5. Few examples of instrument from learning and development construct are-My workplace helps me to decide which skills to improve, My workplace provides learning and development opportunities that meet my needs etc.

Research Collaboration

The 4 item scale (Kelly et al., (2019) was adopted and modified. Here the indicators are publication, combined research project, research consultancy. The respondent were asked to share their assessment on five point likert scale, Strongly unsatisfied-1, Unsatisfied-2, Neutral-3, Satisfied-4, Strongly satisfied-5. Few examples are-Rate your experience in research projects in combined research project under research collaboration,

Rate your experience in research consultancy under research collaboration.

Reward and Recognitions

The 5-item scale was developed and validated by (Perdomo-Ortiz et al., 2020). Here the indicators are transparent and communicated, research contribution quality, policy driven. The rating scale ranged from Strongly disagree-1, Disagree-2, Neutral-3, Agree-4, Strongly agree-5. Few examples of instruments are-There is a transparent compensation and benefits system, there is an incentive program associated with intellectual production and/or performance, clear goals and objectives of intellectual production are established.

Research Fund

The 6-item scale was developed and validated by (Perdomo-Ortiz et al. 2020). Here the indicators are research policy, fund allocation, timely allocation, sufficient research fund. The rating scale for response isStrongly disagree-1, Disagree-2, Neutral-3, Agree-4, Strongly agree-5. Example of instrument incorporated are open and direct communication, clear goal and objective.

5. Data Analysis

In this study learning and development construct consisting of nine items was used to assess several facets of professional development. Similarly Research collaboration instrument consists of 4 items, Reward and recognitions construct consists of 5 indicators. Research fund consists of 6 indicators. The dependent variable Academic research performance consists of 5 items. The data analysis was done using Partial Least Squares Structural Equation Modelling (PLS-SEM) which included Covariance Based SEM.

6. Result and Discussion

Evaluation of Measurement Model

	Cronbach's alpha	Composite reliability (rho_a)
Learning& Development	0.915	0.925
Research Collaboration	0.907	0.912
Research Funds	0.903	0.908
Research Performance	0.926	0.927
Reward & Recognitions	0.888	0.890

Table 1: Composite reliability Test
Source: Processed data

Cronbach's alpha (α) and Composite Reliability (rho_a) were used to evaluate construct reliability and the measurement model's internal consistency. Hair et al. (2022) state that values above 0.80 show good dependability, whereas values of 0.70 or higher suggest adequate reliability. Overall, the Composite Reliability (rho_a) values varied from 0.890 to 0.927, and the Cronbach's alpha values ranged from 0.888 to 0.926. The results verify that the measuring scales have good construct reliability and high internal consistency because all values are significantly higher than the suggested cutoff of 0.70.

Convergent Validity

Variable	Average variance extracted (AVE)
Learning & Development	0.599
Research Collaboration	0.781
Research Funds	0.674
Reward & Recognitions	0.690
Research Performance	0.773

Table 2: Average Variance Extracted
Source: Processed data

Variable	Indi-cator	Factor Loading	Variable	Indi-cator	Factor Loading	Variable	Indi-cator	Factor Loading
Learning & Develop-ment	LD1	0.644	Reward & Reco-gnitions	RR1	0.814	Research Per-formance	RP1	0.848
	LD2	0.782		RR2	0.853		RP2	0.883
	LD3	0.816		RR3	0.809		RP3	0.892
	LD4	0.809		RR4	0.840		RP4	0.912
	LD5	0.834		RR5	0.837		RP5	0.858
	LD6	0.808						
	LD7	0.766	Research Fund	RF1	0.843			
	LD8	0.642		RF2	0.810			
	LD9	0.832		RF3	0.830			
				RF4	0.854			
Research Collabora tion	RCo1	0.860		RF5	0.845			
	RCo2	0.897		RF6	0.740			
	RCo3	0.894						
	RCo4	0.883						

Table 3: Loading Factor Analysis Result
Source: Processed data

Convergent Validity Test

While an external loading value between 0.5 and 0.6 is considered sufficient, correlation between the

reflected variable and the measured construct in a convergent validity test must be larger than 0.7. Table 3 demonstrates that each indicator's external loading value was higher than 0.5, indicating the validity of the variables and indicators employed in the study. AVE (Average Variance Extracted >0.5) and loading factor values >0.5 are used to assess the convergent validity test (Ghozali & Latan, 2015). Based on the table above, the AVE value of each variables was greater than 0.5, indicating that the variable or construct used were valid.

Discriminant Validity Test

This test displays the association with other tests that assess various constructs. Better discriminant validity than other concept measures can account for the indicator's fluctuation. Good discriminant validity is demonstrated by a discriminant validity of >0.6. Discriminant validity value of each indicator:

	Learning & Development	Research Collaboration	Research Fund	Research Performance	Reward and Recognitions
LD1	0.644	0.377	0.307	0.360	0.402
LD2	0.782	0.516	0.468	0.457	0.467
LD3	0.816	0.603	0.495	0.558	0.495
LD4	0.809	0.616	0.537	0.509	0.528
LD5	0.834	0.633	0.565	0.538	0.525
LD6	0.808	0.647	0.599	0.487	0.605
LD7	0.766	0.545	0.530	0.390	0.505
LD8	0.642	0.490	0.502	0.377	0.462
LD9	0.832	0.691	0.633	0.542	0.576
RCo1	0.727	0.860	0.607	0.587	0.620
RCo2	0.657	0.897	0.632	0.663	0.587
RCo3	0.617	0.894	0.599	0.539	0.533
RF1	0.577	0.589	0.843	0.486	0.712
RF2	0.580	0.570	0.810	0.513	0.720
RF3	0.595	0.626	0.830	0.551	0.641
RF4	0.551	0.545	0.854	0.490	0.674
RF5	0.527	0.569	0.845	0.525	0.614
RF6	0.464	0.509	0.740	0.403	0.535
RP1	0.551	0.576	0.475	0.848	0.478
RP2	0.551	0.547	0.533	0.883	0.509
RP3	0.535	0.623	0.555	0.892	0.489
RP4	0.542	0.611	0.545	0.912	0.505
RP5	0.525	0.581	0.554	0.858	0.498
RR1	0.504	0.537	0.562	0.477	0.814
RR2	0.557	0.500	0.643	0.449	0.853
RR3	0.486	0.485	0.668	0.412	0.809
RR4	0.607	0.615	0.728	0.495	0.840
RR5	0.567	0.591	0.689	0.500	0.837
Rco4	0.625	0.883	0.610	0.563	0.590

Table 4: Discriminant Validity
Source: Processed data

Evaluation of the Structural Model

Variable	R-Square
Research Performance	0.565

Table 5: R-square value
Source: Processed data

The coefficient of determination (R^2), which calculates the percentage of variance in an endogenous construct explained by its exogenous predictor constructs, was used to evaluate the explanatory power of the structural model. R^2 is a crucial measure of the predictive accuracy of partial least squares structural equation modeling (PLS-SEM). According to the findings, the R^2 value for the endogenous construct Research Performance was 0.565. This suggests that the predictor factors in the structural model—Learning & Development, Research Collaboration, Research Funds, and Reward & Recognitions—jointly account for 56.5% of the variance in Research Performance. The remaining 43.5% of the variance is explained by other factors not included in this model.

Goodness of Fit

Goodness of Fit introduced by (Tenenhaus, 2004) is use to validate the model as a whole. It is a metric use to evaluate the combined effectiveness of the measurement and structural models. The average AVE is multipled by the average R^2 value to produce the GoF value. The calculation is mentioned below:

	Average variance extracted (AVE)	R-square	Average Value	Product of R-square and Average value
Learning& Development	0.599			
Research Collaboration	0.781			
Research Funds	0.674			
Research Performance	0.773	0.565		
Reward & Recognitions	0.690			
Goodness of Fit (GOF)	0.630		0.703	0.397

Table 6: GOF
Source: Processed data

According to the aforementioned data the average score for common traits was 0.703. The obtained Goodness if Fit value is 0.630 which is quite greater than 0.36 given by (Tenenhaus, 2004). Therefore the large data indicated that the model explained the empirical data excellently.

Path Analysis Result

The aim is to find the structural model's path coefficient. The objective to evaluate any relationship's importance and conduct the hypothesis test.

	Original sample (O)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Learning& Development -> Research Performance	0.152	0.120	1.263	0.207
Research Collaboration -> Research Performance	0.450	0.107	4.200	0.000
Research Funds -> Research Performance	0.214	0.152	1.406	0.160
Reward & Recognitions -> Research Performance	-0.003	0.138	0.022	0.982

Table 7: Path Analysis Result
Source: processed data

The H_1 path analysis generated a p value of 0.207>0.05 and a t value of 1.263<1.96 meaning there was a positive correlation between Learning & Development and Research Performance, as indicated by the path coefficient of β = 0.152. However, because the t-statistic was below the critical value of 1.96 and the p-value was higher than the 0.05 barrier, the connection was not statistically significant (t = 1.263, p = 0.207). As a result, even if Learning & Development shows a positive correlation with Research Performance, there is not enough data to draw the conclusion that this link is statistically significant. As a result, Hypothesis H_1 is rejected and H_0 is accepted.

Research Collaboration and Research Performance were found to have a positive and statistically significant connection (β = 0.450, t = 4.200, p < 0.001). Out of all the predictor variables in the model, Research Collaboration had the greatest positive impact, according to the standardized path coefficient.

The suggested association is well supported empirically by the high t-statistic and extremely significant p-value. Thus, Hypothesis H_2 is accepted and H_0 is rejected. This finding suggests that interdisciplinary partnerships, institutional or external collaborations, and cooperative research activities are essential for improving research performance.Research partnership foster informationa and long-term sustainable growth(Perdomo-Ortiz et al., 2021; Edgar & Geare, 2011; Quimbo & Sulabo, 2013) which concluded that Research Collaboration have a significant affect on Academic Research Performance.

It was found that there was a small but negative correlation (β = -0.003) between Reward & Recognitions and Research Performance. There was essentially no correlation between the two conceptions, since the path coefficient was statistically negligible (t = 0.022, p = 0.982). In the suggested model, Reward & Recognitions do not have a statistically significant direct impact on Academic Research Performance, as evidenced by the extremely low t-statistic and very high p-value. As a result, Hypothesis H_3 is rejected. This result implies that intrinsic motivation, institutional support, collaborative networks, and research infrastructure may have a greater impact on research performance than recognition and reward systems alone.Numerous other elements, including the structure, size, timing, and even personal interpretation of the reward. (Eisenberger et al., 1998) contribute to figuring out the affect. Reward and recognitions doesnot have a significant affect on Academic Research Performance.

There was a positive correlation between Research Funds and Research Performance, as indicated by the path coefficient of β = 0.214. However, there was no statistically significant association (t = 1.406, p = 0.160). The statistical evidence is insufficient to confirm a meaningful effect, even though the relationship's direction is compatible with the suggested hypothesis. Thus, H_3 is rejected.

The results imply that although research financing might enhance research performance, its direct impact is not significant enough in the current sample and might rely on other institutional mediating or moderating factors.

This indicates that the Academic Research Performance is not correlated with the Research Fund (Pinar, 2019; Hicks, 2012) which concluded that the Research Fund doesn't have a significant affect on Academic Research Performance. It depends on many other factors such as funding formula, allocation,performance based research funding, external research funding(Laudel, 2005)

7. Implications

This empirical study found elements that can be effectively applied in academic research projects to improve or broaden the reach of Indian higher education institutions' research abroad. As a result, this would generate more top-notch research and researcher and provide Indian private universities a larger global footprint. Universities as well as academicians' research performance might benefit from these findings. Universities should improve research-focused faculty development by providing training in advanced research techniques, grant writing, academic writing, bibliometric analysis, and publication strategies rather than general professional development (Bilal et al., 2017). Because mentoring improves research capability and productivity, institutions should also set up structured mentorship programs to assist academics in research design, proposal preparation, and publishing (Mazmanian et al., 2014). To further identify faculty-specific training needs and career goals, personalized Individual Research Development Plans (IRDPs) are to be implemented (Salahuddin & Stupnisky, 2025). In order to increase research self-efficacy and competency, learning programs should prioritize practical research experience and ongoing professional development through workshops, peer learning, and frequent feedback (Kozhakhmet et al., 2022; Steinert, et al., 2016). Lastly, rather than relying just on participation, the efficacy of faculty development programs should be assessed using quantifiable research outcomes such publications, research grants, citations, patents, and joint projects (Bilal et al., 2017). Universities should place a high priority on creating a collaborative research environment by encouraging interdisciplinary, inter-institutional, and worldwide research partnerships, given the substantial positive impact of research cooperation on research performance.

In order to handle difficult research challenges and improve information sharing, institutions should create formal research clusters and Centers of Excellence that bring together professors from several disciplines (Katz & Martin, 1997). To improve research networks and raise research awareness, universities could also offer institutional support for cooperative grant applications, joint publications, faculty exchange programs, and participation in international conferences (Bozeman & Boardman, 2014). Additionally, to promote knowledge transfer and cooperative publishing, structured mentoring programs that pair together early-career researchers with seasoned faculty members have to be promoted (Lee & Bozeman, 2005). Universities should rethink their recognition programs to encourage long-term research excellence rather than short-term publishing goals, even though awards and recognition did not significantly affect research performance. Research excellence awards, accelerated career advancement, reduced teaching loads, research sabbaticals, leadership opportunities in research projects, and institutional recognition for high-impact publications, patents, and externally funded projects are just a few examples of the non-financial rewards that institutions should implement. In order to promote ethical and significant scholarship, reward programs should also prioritize the quality, effect, and societal significance of research rather than just the number of publications (Ryan & Deci, 2020). Since perceived organizational justice increases faculty motivation and commitment to research, universities should also guarantee openness and fairness in award allocation through well-defined performance standards and frequent evaluation procedures (Colquitt et al., 2001). Lastly, in order to promote a culture of information exchange and group research excellence, recognition programs should recognize multidisciplinary and collaborative research accomplishments. Universities should increase the efficacy of financing mechanisms by taking a strategic and outcome-oriented approach, even though research funding did not have a substantial direct influence on research performance. Institutions should invest in shared research infrastructure, such as advanced laboratories, digital databases, analytical software, and research support services, and offer competitive seed grants for early-career researchers in addition to integrating funding with research capacity-building initiatives like grant-writing workshops,

and publication mentoring (Laudel, 2005; Jacob & Lefgren, 2011). Additionally, since collaborative research is more likely to produce high-quality scientific results, universities should support interdisciplinary and international collaborative projects through targeted financing schemes (Bozeman & Boardman, 2014). In order to ensure that research investments result in quantifiable academic excellence rather than just increasing financial expenditure, institutional funding should be assessed using outcome-based indicators like publications in high-impact journals, citation impact, patents, successful external grants, and societal contributions.

8. Limitations

Although this study identifies the key elements of superior research performance, it also has several limitations. This research is essentially limited to Scopus indexed articles only. Furthermore, the multidisciplinary approach's impact is not considered, meaning that it may be included in further research. Using this extra strategy can aid in creating a more effective framework for academic research performance. Even though the best search terms have been used, there is still a chance that some material that is available in languages other than English may be overlooked. It is possible that important contributions to this study were overlooked, allowing for future research that uses a larger database and covers more languages. In addition, this evaluation of the material that is currently available has shown four dimensions only more factors can be considered in future research for a better research performance.

9. Conclusion

There is extensive literature donetill date and has recommended a number of strategies to academic research performance but empirical findings considering management practices and academic research performance is sparse. The factors of management practices as an independent variable in influencing academic research performance in Indian context is empirically supported by the data in this study. According to Bazeley (2010), research performance is defined as an activity that is conducted for a performance that needs to be presented to and carried out by others. Research performance is measured by performance indicators.

These are crucial planning tools because they serve as a strategic way for evaluating colleges and universities and aid in the development of operational planning to accomplish goals (Choudhri, 2015). A thorough review of the literature is used to examine how the management practices factors could enhance academic research performance. To investigate the evidence of a relationship between the factors, empirical data is gathered from selected state private universities. The literature review identified four sub themes as learning and development, research collaboration, reward and recognitions, research fund categorized as independent variable. 56.5% of the variance of academic research performance has been predicted by learning and development, research collaboration, reward and recognition and research fund. Here findings suggest Learning and development, Reward and recognitions and Research fund are not significantly affecting Academic research performance. Only research collaboration is significantly affecting Academic research performance. Taking into account the extent of the research, the components that have been found in this study, and along with other excluded dimensions, the researchers will investigate further through the lens of a quantitative method in their thesis work. Thus, management practices have a considerable impact on research and play a vital role in the higher education sector, which is critical to the country's future growth and development. Accordingly, this can be utilized practically in an academic research performance for enhancing or expanding the scope of Indian higher education institute’s research globally.

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