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Research Productivity of Academic Staff and Determinants of Research Performance in Higher Education: A study in Select Private and Deemed to be Universities

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Abstract:
In the competitive landscape of higher education, "Academic Research Performance" has emerged as a crucial differentiator for universities. Universities in Andhra Pradesh and Telangana—both private and deemed-to-be—are facing growing competition as they work to attract more students, strengthen their research output, bring in talented faculty, secure funding, and raise their overall academic standing. This paper specifically focuses on analysing the Academic Research performance of eight such universities (four private and four deemed-to-be Universities in AP and Telangana), drawing upon existing literature. An empirical analysis was conducted on 372 academic researchers to examine their individual contributions to the collective Academic Research performance output. The core aim is to highlight how robust research performance is not just an academic pursuit but a strategic imperative for universities striving for excellence and competitiveness in the current educational climate.

Keywords: Higher education, Academic Research performance, Factors, Private, Deemed Universities.

Introduction:

In recent years, universities across the globe have experienced profound shifts in their academic landscape, primarily driven by mounting competitive pressures linked to performance evaluations (Wang, Lee, and Walsh, 2018). These pressures stem from national and international research assessments, ranking systems, and funding policies that increasingly reward institutions for demonstrable research impact (Horta, 2022; Mudrak et al., 2018). As a result, universities have placed growing emphasis on both the quality and quantity of research, which has heightened expectations for faculty participation in scholarly activity (Brew et al., 2016; Nygaard, 2017). Degn et al. (2018) describe this evolving culture as "academic capitalism," where faculty members must deliver measurable research outputs within a highly competitive environment. Such conditions foster a paradoxical mix of collaboration and competition, as researchers strive to achieve meaningful scientific contributions while navigating institutional demands (Le Roy & Fernandez, 2015).

Horta and Li (2022) highlight that because scientific output is multifaceted, evaluating researchers' performance is complex and essential (Goel & Göktepe-Hultén, 2020; Jorgensen & Hanssen, 2018). Traditionally, academic roles are structured around three primary pillars: teaching, research, and service (Edgar & Gear, 2013; Jauch & Glueck, 1975). Within this framework, academic research performance encompasses not only the conduct of research, recognised as a core responsibility of faculty (Hedjazi & Behravan, 2011), but also the measurable results that demonstrate the value and impact of such work. In the Indian context,

the evaluation of faculty productivity is formalised through the Academic Performance Indicator (API) system overseen by the University Grants Commission (UGC). The most recent UGC Regulations (June 7th, 2024) outline performance measurement across three major domains: teaching, learning, and evaluation-related responsibilities; contributions to co-curricular, extension, and professional development activities; and research and academic outputs such as publications, funded projects, and other scholarly contributions. This structured framework seeks to standardise and quantify faculty efforts in instruction, institutional growth, and research productivity.

The paper looks at "research performance" in higher education, a topic gaining attention because of its role in shaping academic careers, securing institutional funding, and building international reputation. Instead of limiting the concept to just publications, the study views research performance more broadly, covering journal articles, supervising doctoral students, leading or participating in research projects, attending academic events, engaging in faculty development programs, and contributing to professional networks. Based on existing studies, the authors aim to create a clear framework for understanding and evaluating research performance to help faculties improve their productivity and administrators strengthen their institution's research profile. The paper begins with an introduction and a theoretical background grounded in the literature on academic research performance. It then highlights the unique features of private and deemed universities, setting the context for the investigation. Following this, the methodology is outlined, discussing how the sample was selected, how the questionnaire was designed, and how the scales were tested and validated. The results are then presented, leading into a discussion of the findings, their practical significance, and the limitations of the work. The study concludes by suggesting future directions for research in this area.

2. Research Performance:

2.1. Measurements and Influencing Factors of Research Performance:

A review of prior studies highlights that research performance has been conceptualised and assessed through multiple approaches (Brew, 2016). Scholars have emphasised that research performance is not a single-dimensional construct but can be evaluated using diverse criteria and models. Broadly, it is understood in terms of the academic research output, most often assessed through the volume of scholarly publications, sometimes further refined by quality considerations. Although the sheer number of publications is regarded as the most straightforward indicator, evidence suggests a close relationship between the quantity of research and its overall impact (Brew, 2016). Therefore, different measurement frameworks have evolved, focusing on publication counts, quality of journals, citation impact, and other forms of scholarly contributions.

Publication-based metrics: The most popular criterion is to measure research productivity through the number of publications. This includes the number of articles published in refereed or professional journals, published books, chapters in academic books, and scholarly articles. Some studies also measure the number of publications weighted by publication rating. Impact and Quality: Research impact is defined as a measure of the influence of a research and is evaluated by using the number of citations made to it by other scholars. Other impact measures include the average impact factor of the journals where publications appeared, and citations are counted as a measure of research success. The quality of research is often determined by expert value judgments, which are typically delivered via peer reviews.

Bazeley (2010) stated that conventional measures of research performance are based on publication output, citations as a measure of impact, and other assessments of work quality (e.g., by expert panels). Activities and Recognition: Research performance can also be measured by a broader range of activities and recognition. These include research activities, such as submitting proposals and obtaining grant funding. Awards and Honours: The number of honours and awards. Professional Engagement and Memberships: Positions held in professional associations, serving as an editor or on the editorial board of an academic journal, or reviewing one or more articles for a journal. Mentorship: The number of supervised dissertations, honours/master's students, or PhD students. Attended/participated in and organised seminars. Workshops, conferences, and Fdps membership online courses. Ramsden and Moses (1992) Model: Ramsden and Moses (1992) proposed two indicators of individual research performance, the Research Productivity Index: The five-year sum of single or multi-author books, papers in refereed journals, edited books, and chapters in refereed books. Research activities index: This includes receiving internal or external competitive research grants, supervising students, participating in joint projects, and professional networking with colleagues overseas.

2.2. Factors Affecting Research Performance:
Numerous studies have identified consistent characteristics that impact faculty research productivity. These factors are generally grouped into internal (individual) and external (institutional/environmental).

Individual Factors: Individual attributes and demographic variables are considered internal factors. Personal Characteristics: According to Wood (1990), personal characteristics such as ability, creativity, motivation, self-discipline, and ambition determine research performance. Demographics and Background: Hesli and Lee (2011) also included race and gender, along with PhD program ranking and quality, as factors. The field of specialisation and the highest terminal degree are also influential. Work Habits and Skills: Creswell (1985) described successful researchers as spending at least one-third of their time on research activities. Researchers often emphasise the role of professional connections in enhancing scholarly productivity. Creswell (1985) highlighted that effective researchers sustain consistent and close interactions with peers working on related topics. Similarly, Kyvik and Smeby (1994) observed that mentoring doctoral students engaged in projects aligned with their supervisors' research focus contributes independently to improving scientific output.

External Factors: External factors include institutional and departmental attributes. These include: Institutional Environment: Jordan and his colleagues (1988, 1989) found that private institutions are associated with greater academic research productivity. This is consistent with the view that private institutions emphasise research over teaching, whereas public universities give greater emphasis to teaching and service. The research culture within an institution is also a factor. Resources and Support: The productivity of academic staff is significantly influenced by the availability of institutional resources, including administrative frameworks, physical resources, and the organisational culture and structure. For instance, Dundar and Lewis (1998) highlighted that factors such as the total university revenue, access to technology and computing resources, and the volume of library books and journals represent key institutional attributes affecting productivity. In terms of leadership and management, Ramsden (1994) emphasised the importance of how academic departments are governed and led, noting that these structural aspects influence productivity outcomes.

Similarly, Bland and colleagues (2002) noted that effective leaders are well-respected, academically proficient, and balanced in their research and teaching activities. Moreover, workload and institutional policies are critical; high teaching and supervisory responsibilities can adversely affect research output. Dundar and Lewis (1998) also discussed departmental culture and working conditions, including workload regulations and the provision of research leaves and travel funding, as important departmental characteristics influencing productivity. Regarding departmental size, Kyvik (1995) argued that larger academic departments foster research collaboration more effectively by creating environments that encourage cooperation, leading to enhanced research performance through increased academic interaction. This understanding underscores the multifaceted influence of structural, resource-based, and cultural factors on academic research productivity (Dundar & Lewis, 1998; Ramsden, 1994; Bland et al., 2002; Kyvik, 1995).

2.3. Research performance

largely depends on the opportunities and resources available to academics. Even highly motivated scholars may struggle to deliver meaningful contributions if they lack essential support structures, whereas those with adequate resources tend to achieve significantly more (Jiang et al., 2012). Successful research requires crucial inputs like reliable infrastructure, sufficient financial support, and skilled technical staff. These job-related resources strengthen academic engagement and, in turn, lead to better research outcomes (Han et al., 2020).In today's academic environment, access to technological resources—like advanced computers, specialised software, databases, and digital repositories—is critical, as these tools significantly improve research conditions and knowledge management (Kyvik & Aksnes, 2015). Funding is another critical factor. Studies show that financially supported scholars publish more frequently in high-impact journals and their work receives greater recognition through citations (Hottenrott & Lawson, 2017; Wang, Lee, & Walsh, 2018). Adequate funding not only supports infrastructure but also helps build substantial human research capital, which is essential for sustained scientific productivity (Kyvik & Aksnes, 2015).

In settings where institutional funding is limited, competitive grant mechanisms ensure that researchers can still access the human and physical resources needed for impactful work (Ganguli, 2017). Investments in academic infrastructure and developing skilled personnel represent valuable opportunities to enhance research performance. Ultimately, continuous financial support—covering both human resources and infrastructure—serves as the cornerstone for improving scientific output and enabling universities to achieve stronger academic results (Amara, Landry, & Halilem, 2015; Lawson, Geuna, & Finardi, 2021; Sutherland, 2017).

3. Research Methodology:

3.1. Objectives of the Study:

1. To analyse patterns and the current status of research output at selected private and deemed universities.
2. **To assess the publication growth and related scholarly activities undertaken by** academic staff at selected private and deemed universities.
3. To investigate the determinants influencing research performance in the selected private and deemed universities.

3.2. Hypothesis development Building on the importance of academic staff research contributions, this study explores how research output relates to overall performance. We suggest that an academic's research standing directly impacts their performance levels. In addition, when scholars are provided with adequate resources and a supportive research atmosphere, they can maximise their skills, stay motivated, and achieve their research objectives. Based on this reasoning, the study proposes the following hypotheses.

Hypothesis Statement

H_I1: There are significant differences in the patterns and current status of research output among selected private and deemed universities.

H_I2: There is a significant growth in publications and related scholarly activities among academic staff at selected private and deemed universities over the study period.

H_I3: There is a significant difference in Research performance in selected private and deemed universities, which is powerfully shaped by institutional conditions and individual faculty factors.

3.3. Methodology: Sample and data: A quantitative survey was carried out with academics from eight private and deemed universities across Andhra Pradesh and Telangana to help achieve the study's objectives. Data was collected through online surveys via Google Forms, sent to email addresses found on university websites, and also through face-to-face surveys. A cover letter explaining the study's purpose was included to maximise participation, and up to three reminders were sent. Academic staff who initially agreed to participate are 426; some responses were removed due to incomplete data. The final sample comprised 372 researchers who provided information on their academic research performance. Ultimately, the final sample for the study was composed of 372 academic researchers from the specified universities. This sample size was determined to be appropriate for a finite population using simple random sampling criteria, with a 95.5%

4. Results:

4.1. Demographic Results: Based on the data provided, A survey of 372 participants from eight universities shows that 53.5% are from deemed universities and 46.5% from private ones. The majority are male (65.9%), with the largest age group being 36–45 (40.1%). Most respondents hold a Ph.D. (68.5%), followed by postgraduates (30.1%) and a small share with M.Phil. (1.3%). Assistant Professors form the bulk of respondents (70.2%), with Associate Professors (19.1%) and Professors (10.8%) making up the rest. Regarding experience, 34.4% have over 15 years, while 13.7% have 0–5 years. The remaining participants fall into the 6–10 years (33.3%) and 11–15 years (18.5%) experience groups.

Table No. 1. The means for research outputs (refereed journals, non-refereed journals, book chapters,

Research Output	Significance (p)	Significant Difference?	Group with Higher Mean
Refereed Journals	0.492	No	Private
Nonrefereed Journals	0.402	No	Private
Book Chapters	0.049	Yes	Deemed
Books Published	0.215	No	Deemed

(Source: Researcher Compilation from SPSS)

4.2. The study compared the research productivity of faculty members from private and deemed universities, focusing on refereed journals, non-refereed journals, book chapters, and books. The findings indicate no significant difference between the two groups regarding refereed and non-refereed journal publications, nor overall book publications. However, a clear difference emerged in book chapters, where faculty from deemed universities were found to publish more on average compared to their counterparts in private universities. Overall, research productivity between the two groups remains comparable, except that book chapter contributions favour deemed universities. When looking at other academic activities, the results show no statistically significant differences between private and deemed university faculty:
Workshops Attended: p=0.558p=0.558 – no difference. Workshops Organised: p=0.384p=0.384 – no difference. Seminars Attended: p=0.050p=0.050 – a marginal indication of difference, but the effect size is negligible. Conferences Attended: p=0.702p=0.702 – no difference (Faculty Development Programs) Attended: p=0.933p=0.933 – no difference Organised: p=0.168p=0.168 – no difference.

4.3. **ANOVA Results**: The ANOVA section tests if there are statistically significant differences between "private" and "deemed" groups for each variable, indicated by the F-value and Significance (Sig.)/p-value Difference ($p > 0.05$)
Statistically significant differences exist in age, educational qualifications, and most other professional and output variables, but they do not differ significantly by institution type. Significant differences in the means for age, qualifications, book chapters, consultancies, and fellowships imply that the type of institution may influence these aspects. No significant difference suggests that, in most professional output areas (publications, research, workshops, awards), institutional category does not matter statistically, at least in this sample. Seminars attended also show a borderline significant difference between groups ($F = 3.868$, $p = 0.050$), suggesting group membership may influence seminar attendance. The question "Did you receive any national and international fellowships?" is significant ($F = 4.024$, $p = 0.045$), meaning there are notable group differences in the receipt of fellowships. Consultancy offered demonstrates a significant result ($F = 4.773$, $p = 0.029$), suggesting a difference between groups regarding consultancy activities.

Non-Significant Results. Most other variables—including refereed journals, nonrefereed journals, books published, research guidance PhD, and various workshop, seminar, conference, FDP attendance/organisation, project, and award variables—have p-values well above 0.05, indicating no statistically significant group differences for these measures. For these variables, the F-values are low and Sig. (p) values are much higher than the threshold of 0.05, implying homogeneity across groups for those activities
4.4. 4.4.Independent Samples Test Results: The t-tests assess whether the differences in means between genders are statistically significant., For refereed journals, the p-value = 0.034 (equal variances assumed), which is less than 0.05, indicating a statistically significant difference favouring females., For other categories (e.g., nonrefereed journals, book chapters, books published, research guidance, workshops, etc.), p-values are greater than 0.05, suggesting no statistically significant difference between genders in these activities.

Table No. 2: Detailed Interpretation by Variable Category

S. No	Variable Group	Significant Difference?	Interpretation

1	Refereed journals	No (p = 0.372)	No evidence that the groups differ in refereed journal output.
2	Nonrefereed journals	No (p = 0.486)	No significant difference among groups.
3	Book chapters	Yes (p = 0.026)	Groups differ significantly in the number of book chapters.
4	Books published	No (p = 0.257)	No difference detected for books published.
5	Research guidance PhD	No (p = 0.929)	No significant difference in PhD research guidance counts.
6	Workshops attended	No (p = 0.244)	Attendance at workshops is similar across groups.
7	Workshops organized	No (p = 0.527)	No significant group differences.
8	Seminars attended	No (p = 0.898)	Similar seminar attendance across groups.
9	Seminars organized	No (p = 0.425)	No difference in seminar organisation.
10	Conferences attended	No (p = 0.486)	No difference in conference attendance detected.
11	Conferences organized	Yes (p = 0.000)	Strong difference between groups in conference organisation.
12	FDPs attended	Yes (p = 0.000)	Significant differences in Faculty Development Program attendance.
13	FDPs organized	Yes (p = 0.000)	Significant variation in organising FDPs among groups.
14	Fellowships received	Yes (p = 0.014)	National and international fellowships differ across groups.
15	Online courses completed	Yes (p = 0.000)	Groups differ significantly in completing online courses.
16	Major and minor projects in process	Yes (p = 0.000)	Significant difference in ongoing projects among groups.
17	Major and minor projects executed	Yes (p = 0.000)	Executed projects vary significantly between groups.
18	Membership in professional bodies	Yes (p = 0.000)	Membership levels differ among groups.
19	Consultancy offered	Yes (p = 0.000)	Significant difference in the consultancy offered between groups.
20	National and international awards	Yes (p = 0.000)	Awards show strong differences across groups.

(Source: Researcher Compilation from SPSS)

This pattern is repeated across metrics such as seminars, conferences, FDPs, project-related activities, memberships, consultancy, and awards, confirming similar involvement regardless of gender. Female faculty publish slightly more in refereed journals than their male colleagues, and this difference is statistically significant. For all other activities, no meaningful gender gap is detected; male and female faculty participate at statistically similar rates. These results suggest that, except for the higher refereed journal output among females,

gender does not play a significant role in academic and professional engagement among the surveyed faculty. Most variables, such as refereed journals, nonrefereed journals, books published, research guidance PhD, workshops attended, seminars attended, and conferences attended, show no significant difference between groups ($p > 0.05$). Variables with significant differences between groups ($p < 0.05$) Conference organized, FDPs attended, FDPs organized, national and international fellowships, number of online courses completed, major and minor projects in process, major and minor projects executed, membership in professional bodies, consultancy offered, and national and international awards all have a p-value of 0.000 or less than 0.05, indicating highly significant differences among groups.
The F-statistic reflects how much variation exists between different groups compared to the variation within each group. In simple terms, a higher F-value means the difference between groups is more meaningful. For example, conferences organised showed an extreme difference with an F-value of 58.100, followed by faculty development programs (FDPs) attended with 44.496, and consultancy services offered with 40.596. These high values indicate that these factors play a particularly significant role.

Discussion and Conclusion:
Faculty research performance in private and deemed universities shows a striking level of similarity across most key areas, such as publications in refereed and non-refereed journals, book authorship, and doctoral supervision. One area that stands out is book chapter contributions, where faculty in deemed universities tend to publish significantly more, suggesting that some institutional differences influence specific academic outputs. The patterns are again largely uniform when looking at broader academic and professional activities—like attending or organising workshops, seminars, conferences, and faculty development programs (FDPs). However, some distinctions do emerge. Activities such as organising conferences, participating in FDPs, offering consultancies, securing fellowships, pursuing online courses, and leading project-related work differ noticeably, often tilting in favour of one institution. Similarly, aspects like holding professional memberships and receiving national or international awards also show significant variation, pointing to differences in institutional support, resources, or recognition mechanisms. A gender-based breakdown of faculty output provides its own insight. Female faculty were found to publish more refereed journal articles than male faculty, though for most other academic and professional activities, performance levels do not vary much by gender. Importantly, statistical tests with higher p-values ($p > 0.05$) confirm that across the majority of metrics, performance between the two groups—whether by institution type or gender—remains comparable.

These findings highlight that interventions to enhance research productivity need not be broad or sweeping. However, they should instead target specific activities where disparities persist, such as consultancies or project leadership. Research output is influenced by individual factors (personal research trajectory, discipline, or motivation) and institutional conditions (like department culture, leadership, and available resources). The gaps identified, particularly in fellowships and consultancies, underscore the role of institutional context in shaping opportunities and achievements. The study suggests a broadly shared academic culture and expectations among faculty in private and deemed universities of Andhra Pradesh and Telangana. With only minor differences, tailored strategies and supportive interventions—instead of structural overhauls—are likely sufficient to bridge the few gaps observed.

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