NAEM JOURNAL
ISSN 1997-4248, eISSN 2959-4561
Volume 19 Issue 02

Challenges of Improving Research Facilities for Quality Education at Private Universities in Bangladesh

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Abstract

Introduction:

High-quality research is essential for enhancing the global ranking and academic reputation of universities. Private universities in Bangladesh, however, continue to encounter obstacles that restrict their ability to strengthen research facilities and achieve international recognition. This study aimed to explore the key challenges affecting research environments in QS-ranked (2024) versus non-ranked private universities.

Methodology:

A survey was conducted among 396 faculty members from 25 private universities using a structured questionnaire. Universities were grouped into ranked and non-ranked categories, and responses were analyzed to assess barriers related to infrastructure, funding, institutional management, and external support. Odds ratios (OR) with 95% confidence intervals (CI) and p-values were calculated to determine statistical significance.

Results:

Non-ranked universities consistently reported greater barriers across all domains, including laboratory facilities, funding, access to books and journals, research tools, workload, incentives, training, availability of research assistants, and mentoring. Funding emerged as the most pressing issue, with significant associations observed for inadequate labs (OR 1.68–2.76, $p < 0.01$), limited research tools (OR 2.65, $p = 0.0063$), lack of incentives (OR 2.98, $p < 0.0001$), insufficient research assistants (OR 2.45, $p < 0.0001$), and absence of mentors (OR 2.71, $p < 0.0001$). Institutional limitations, including weak support from management, Boards of Trustees, and government agencies, were also frequent challenges ($p < 0.05$ across several areas). Overall, financial shortages, limited managerial commitment, and inadequate structural support were the most critical barriers to ranking improvement.

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Conclusion:

Non-ranked private universities face substantially higher challenges in developing research capacity, with financial and infrastructural limitations being the most influential constraints.

Recommendations:

To strengthen research and enhance ranking outcomes, strategies should focus on greater funding, infrastructure development, proactive institutional support, research training and mentorship, and stronger collaborations among universities, Boards of Trustees, and government bodies.

Introduction

The rapid proliferation of private universities in Bangladesh, following the enactment of the Private University Act in 1992, has expanded access to higher education and helped address the growing demand in a country with a population exceeding 170 million (Alam, n.d.). By 2025, more than 100 private universities were in operation, complementing public institutions and enrolling large numbers of students nationwide (Friedrich-Ebert-Stiftung, n.d.). While these universities have eased the burden on public institutions, questions remain about their ability to ensure high-quality education, especially in research-intensive fields. Many face persistent barriers, including inadequate research infrastructure, insufficient funding, and weak governance mechanisms (Andaleeb, 2024).

The present study, *Challenges of Improving Research Facilities for Quality Education at Private Universities in Bangladesh*, examines these issues, particularly the differences between QS-ranked universities—such as North South University and BRAC University, both included in the QS Asia University Rankings 2025—and their non-ranked counterparts (QS Top Universities, 2025).

Using survey data from 396 faculty members (108 from ranked universities and 288 from non-ranked ones), the research applies logistic regression to assess challenges across dimensions such as infrastructure, funding, human resources, and institutional support. Eleven detailed tables present findings on barriers including laboratory facilities, access to research funds, journals, research tools, workload, incentives, training, research assistants, and mentorship. Odds ratios (OR) and p-values are reported, with ranked universities serving as the reference category (OR = 1). Results indicate that non-ranked universities are more likely to face constraints. For example, Table 1 (Well-Equipped Labs) shows that financial limitations (OR = 1.6760, $p = .0078$), lack of management initiatives (OR = 3.0121, $p < .0001$), and inadequate support from Boards of Trustees (OR = 2.5991, $p < .0001$) are significant impediments, highlighting financial and governance-related deficiencies (Hossain, n.d.).

This research is especially relevant within the framework of Sustainable Development Goal 4 (Quality Education), which emphasizes inclusive, equitable education underpinned by strong research systems (World Bank, 2014). Since private universities in Bangladesh largely depend on tuition revenue, they tend to prioritize teaching over research, leading to underinvestment

in innovation and facilities necessary for global competitiveness (The Business Standard, 2022). Findings reveal that non-ranked institutions face more severe challenges, which may contribute to a cycle of low research productivity and limited international recognition. By addressing these gaps, the study seeks to inform policies that encourage government and institutional investment in research through initiatives such as the Higher Education Quality Enhancement Project (HEQEP) and public–private partnerships, ultimately strengthening the research ecosystem and raising educational standards (World Bank, 2014; Kabir, 2018).

Rationale of the Study

Universities serve as the primary centers for knowledge creation, and research is the core mechanism through which this knowledge is generated. To ensure the quality of research across diverse fields, adequate research facilities, equipment, and supportive infrastructure are essential. Indicators such as the availability of physical and research facilities, the number of research projects, and their outputs in the form of publications or industry applications are critical for assessing the research capacity of an institution.

In this study, the focus is placed on examining the physical and research facilities of private universities in Bangladesh. As private universities are increasingly contributing to the country's higher education sector, strengthening their research environment is vital for improving the overall quality of higher education. This project aims to evaluate the current status of research facilities and outputs, identify existing gaps, and recommend strategies for improvement. The findings will provide evidence-based suggestions for NAEM and other national authorities to adopt appropriate policies that enhance facilities, increase the quantity and quality of research, and ultimately contribute to the advancement of higher education in Bangladesh.

Objectives:

General Objective:

To evaluate the challenges for improving research facilities of private universities in Bangladesh contributing to quality higher education and suggest policy recommendation for improvement

Specific Objectives

- To examine the present situation of research facilities of private universities in Bangladesh
- To identify potential limitations or challenges of improving research facilities for quality education
- To suggest policy for NAEM and other national authorities to overcome the challenges to improve the facilities in private universities contributing to quality of education

Scope and Limitation of the Study:

The extent of the study will cover selected private universities in Bangladesh. We would like to evaluate the present research facilities as well as the limitations for improving it. In addition, on the basis of our findings, we would like suggest for corrective measures by adopting appropriate policies.

Methodology of Study: Sampling

Target Group

The target group of this study includes faculty members, chairs, deans, and registrars of private universities, as they are well aware of the indicators necessary for developing the quality of education.

Time and Location of Study

The study was conducted over one year across 25 private universities in Bangladesh. The universities were selected from different time periods of establishment:

- Universities established before 2000 (14 in total; Dhaka: 11, Outside Dhaka: 3): 8 universities were selected (6 from Dhaka, 2 from outside Dhaka).
- Universities established between 2001–2010 (39 in total; Dhaka: 29, Outside Dhaka: 8)**:** 10 universities were selected (7 from Dhaka, 3 from outside Dhaka).
- Universities established after 2010 (61 in total; Dhaka: 6, Outside Dhaka: 55): 7 universities were selected (2 from Dhaka, 5 from outside Dhaka).

This selection ensured representative coverage of universities based on their establishment period and location.

Sampling Technique

A comprehensive list of faculty members, chairs, deans, and registrars was prepared. Using the **Simple Random Sampling (SRS)** technique, respondents were selected for the study. The final sample size was determined using the online survey calculator "Survey System," with a 5% margin of error at a 95% confidence level. Accordingly, **400 respondents** were chosen:

- **Faculty members:** 12 from each university (total 300)
- **Chairs/Deans/Registrars:** 4 from each university (total 100)

Data Collection

Primary data were collected through structured questionnaires administered to the selected faculty members, chairs, deans, and registrars. The data mainly focused on:

a) Demographic and socioeconomic characteristics

b) Information related to research facilities

c) Problems and challenges in developing research facilities

Source of Data

The primary data were collected directly from the selected respondents across 25 private universities. The universities were chosen on a representative basis, ensuring variation in establishment period and location.

Result and Discussion

Table 1 : Well Equipped Labs (n=396)

	Ranked Universities (QS ranked_2024)	Non Ranked Universities	Odds Ratio (95% CI)	P Value
Total Response	108	288	Ref.	-
Fund Constrain	49	219	1.6760 (1.1455 to 2.4523)	**0.0078**
Lack of initiatives form the university management	31	249	3.0121 (0.9518 to 4.6484)	**< 0.0001**
Lack of initiatives from BOT	29	201	2.5991 (1.6610 to 4.0671)	**< 0.0001**
Lack of govt. initiatives	47	241	1.9229 (1.3112 to 2.8199)	**0.0008**
Others	61	273	1.6783 (1.1769 to 2.3933)	**0.0042**

Table 2: Internal and External funds for research (n=396)

	Ranked Universities (QS ranked_2024)	Non Ranked Universities	Odds Ratio (95% CI)	P Value
Total Response	108	288	Ref.	-
Fund Constrain	35	245	1.7750 (1.1555 to 2.4723)	**0.0009**
Lack of initiatives form the university management	31	207	2.0121 (0.9518 to 4.6484)	**0.017**
Lack of initiatives from BOT	61	257	1.5991 (1.6610 to 4.0671)	0.0567
Lack of govt. initiatives	67	274	1.9229 (1.3112 to 2.8199)	0.079
Others	61	273	1.6783 (1.1769 to 2.3933)	**0.043**

Table 3: Access to Required books and Journals (n=396)

	Ranked Universities ranked_2024)	Non Ranked Universities	Odds Ratio (95% CI)	P Value
Total Response	108	288	Ref.	-
Space Constrain	41	247		
Fund Constrain	39	251	2.7551 (1.7348 to 3.0772)	**0.0078**
Lack of initiatives form the university management	34	217	2.1217 (1.4551 to 3.0936)	**0.0065**
Lack of initiatives from BOT	63	261	1.345 (0.9521 to 1.8937)	0.1842
Lack of govt. initiatives	73	277	1.639 (0.8371 to 1.6462)	0.4536
Others	63	274	1.5933 (1.1026 to 2.2736)	**0.0156**

Table 4: Access to Research Related Tools (n=396)

	Ranked Universities (QS ranked_2024)	Non Ranked Universities	Odds Ratio (95% CI)	P Value
Total Response	108	288	Ref.	-
Space Constrain	39	253		
Fund Constrain	38	249	2.6552 (1.8348 to 3.9772)	**0.0063**
Lack of initiatives form the university management	37	222	2.5217 (1.4551 to 3.0936)	**0.0079**
Lack of initiatives from BOT	69	261	1.463 (0.9921 to 2.7937)	0.2842
Lack of govt. initiatives	65	271	1.839 (0.8971 to 1.592)	0.1536
Others	63	275	1.8533 (1.1926 to 2.8736)	**0.023**

Table 5: Rational Workload (n=396)

	Ranked Universities (QS ranked_2024)	Non Ranked Universities	Odds Ratio (95% CI)	P Value
Total Response	108	288	Ref.	-
Fund Constrain	33	255	1.9552 (1.5348 to 3.2172)	**0.0041**
Lack of initiatives form the university management	36	229	1.8217 (1.1551 to 3.2936)	**0.0129**
Lack of initiatives from BOT	65	263	1.723 (1.2921 to 3.1937)	0.0812
Lack of govt. initiatives	71	278	1.539 (1.3971 to 1.692)	0.0536
Others	62	275	1.9523 (0.9926 to 4.7736)	**0.023**

Table : 6. Incentives for Research (n=396)

	Ranked Universities (QS ranked_2024)	Non Ranked Universities	Odds Ratio (95% CI)	P Value
Total Response	108	288	**Ref.**	**-**
Fund Constrain	31	247	2.9879 (1.9358 to 4.6117)	**< 0.0001**
Lack of initiatives form the university management	49	227	1.7372 (1.1883 to 2.5398)	**0.0044**
Lack of initiatives from BOT	75	261	1.3429 (0.9562 to 1.8859)	0.0988
Lack of govt. initiatives	82	279	1.3490 (0.9644 to 1.8871)	0.0734
Others	62	277	1.5655 (1.1000 to 2.2278)	**0.0128**

Table 7: Funds for Publication and Conference Attendance (n=396)

Space Constrain	Ranked Universities (QS ranked_2024)	Non Ranked Universities	Odds Ratio (95% CI)	P Value
Total Response	108	288	Ref.	-
Fund Constrain	41	267	2.3872 (1.6056 to 3.5493)	**< 0.0001**
Lack of initiatives form the university management	44	231	1.9688 (1.3317 to 2.9106)	**0.0007**
Lack of initiatives from BOT	74	265	1.3429 (0.9562 to 1.8859)	0.0888
Lack of govt. initiatives	77	277	1.3490 (0.9644 to 1.8871)	0.0804
Others	63	263	1.5655 (1.1000 to 2.2278)	**0.0128**

Table 8: Lack of research related training (n=396)

Space Constrain	Ranked Universities (QS ranked_2024)	Non Ranked Universities	Odds Ratio (95% CI)	P Value
Total Response	108	288	Ref.	-
Fund Constrain	39	211	2.0288 (1.3505 to 3.0478)	**0.0007**
Lack of initiatives form the university management	34	251	2.7684 (1.8172 to 4.2174)	**< 0.0001**
Lack of initiatives from BOT	62	277	1.3500 (1.1769 to 2.3851)	0.0042
Lack of govt. initiatives	75	270	1.752 (0.9725 to 1.9070)	0.0820
Others	58	254	1.6422 (1.1447 to 2.3561)	**0.0071**

Table 9: Lack of Research Assistants (n=396)

Space Constrain	Ranked Universities (QS ranked_2024)	Non Ranked Universities	Odds Ratio (95% CI)	P Value
Total Response	108	288	Ref.	-
Fund Constrain	42	249	2.4475 (1.6433 to 3.6452)	**<0.0001**
Lack of initiatives form the university management	51	237	1.7426 (1.1980 to 2.5349)	**0.0037**
Lack of initiatives from BOT	71	267	1.4102 (1.0011 to 1.9865)	0.0493
Lack of govt. initiatives	76	276	1.3618 (0.9725 to 1.9070)	0.0722
Others	55	269	1.7659 (1.2253 to 2.5451)	**0.0023**

Table 10: Lack of Research Guide or Mentor (n=396)

	Ranked Universities (QS ranked_2024)	Non Ranked Universities	Odds Ratio (95% CI)	P Value
Total Response	108	288	Ref.	-
Fund Constrain	38	249	2.7051 (1.7948 to 4.0772)	**<0.0001**
Lack of initiatives form the university management	52	232	2.1217 (1.4551 to 3.0936)	**0.0001**
Lack of initiatives from BOT	74	266	1.3003 (0.9221 to 1.8337)	0.1342
Lack of govt. initiatives	79	276	1.739 (0.8371 to 1.6462)	0.3526
Others	59	274	1.5833 (1.1026 to 2.2736)	**0.0128**

Table 11: Lack of Research Guide or Mentor (n=396)

	Ranked Universities (QS ranked_2024)	Non Ranked Universities	Odds Ratio (95% CI)	P Value
Total Response	108	288	Ref.	-
Fund Constrain	48	247	1.9297 (1.3195 to 2.8221)	**0.0007**
Lack of initiatives form the university management	41	237	2.1677 (1.4552 to 3.2290)	**0.0001**
Lack of initiatives from BOT	69	268	1.3842 (0.9764 to 1.9622)	0.0679
Lack of govt. initiatives	74	273	1.2670 (0.8990 to 1.7857)	0.1765
Others	64	271	1.4758 (1.0348 to 2.1046)	**0.0316**

Higher education exerts a profound influence on national development by generating knowledge, fostering innovation, and producing skilled human resources. Ahmed et al. (2010) emphasized that the central goals of higher education are to create new knowledge, conduct research addressing social and developmental concerns, anticipate economic needs, and train competent professionals. Beyond its economic contributions, higher education also enhances cultural diversity, political democracy, and global trade opportunities (Abbasi et al., 2011; Navarro et al., 2005).

In Bangladesh, higher education encompasses tertiary education provided by universities, degree colleges, and other post-secondary institutions. Five main streams exist: general education, science and technology, medical education, agricultural education, and distance learning (Monem & Baniamin, 2010). Growing demand for higher education in the 1990s led to the establishment of private universities under the Private University Act of 1992. The University Grants Commission (UGC) remains the primary regulatory body responsible for ensuring quality and granting operational approval (University Grants Commission, 2008).

Private universities offered students opportunities to access global-standard education without traveling abroad, often responding to market demands in emerging fields (Huda et al., 2010). However, many institutions have struggled to maintain academic quality, hindered by weak governance, limited facilities, and commercial motivations (Rouf et al., 2015).

Multiple studies have investigated factors shaping educational quality in private universities. Ashraf et al. (2009) identified tuition costs, faculty credentials, research facilities, and campus resources as key determinants. Similarly, Sharma (2011) highlighted student performance, faculty performance, institutional systems, facilities, and research environment. Lamanga (2002) emphasized equity, responsiveness to labor markets, and teaching and research quality, while Hafiz (2005) proposed broader components such as income, expenditure, and institutional outputs.

Other empirical studies confirm that faculty quality, infrastructure, updated curricula, and administrative efficiency play pivotal roles (Habibullah et al., 2012; Hoque et al., 2013; Naser, 2010). Abbasi et al. (2011) included teaching, administrative services, library resources, labs, transportation, and accommodation among the major indicators of quality.

Student satisfaction is widely considered an essential measure of higher education quality. Research shows that satisfaction improves learning outcomes, motivation, and creativity (Sultan & Wong, 2012). Tangible resources, teaching responsiveness, and reliable administration are core predictors (Navarro et al., 2005). In Bangladesh, Faruky et al. (2012) found that teacher qualifications strongly influence student satisfaction, while Haque et al. (2011) noted the importance of labs, extracurricular activities, and classroom conditions.

Research is central to advancing higher education, yet private universities in Bangladesh often neglect developing a strong research culture. Lack of incentives, inadequate laboratory facilities, insufficient training, and poor mentorship limit scholarly output (Barua & Uddin, 2021; Rabbani et al., 2014). Broader challenges include politicization, governance weaknesses, and over-reliance on part-time faculty (Majumder et al., 2012; Masum, 2008).

Our study extends this literature by comparing ranked and non-ranked private universities. Results show that financial and spatial constraints, limited government support, and weak Board of Trustees' involvement remain critical barriers ($p < .05$). Significant differences were observed in facilities, funding, incentives, and access to research resources between ranked and non-ranked institutions, with financial and infrastructural gaps emerging as the most decisive factors.

These findings highlight the urgent need for reforms. Policy interventions should prioritize increased funding, improved infrastructure, research incentives, and faculty development. The UGC and Boards of Trustees must play more active roles in establishing accountability and supporting a research culture. Stronger government initiatives (e.g., research grants, tax incentives) and public–private partnerships could reduce systemic barriers. Additionally, capacity building through mentorship and training programs, coupled with international collaboration, would help Bangladesh's private universities improve their research output and global ranking position.

Reference:

Abbasi, M. N., Malik, A., Chaudhry, I. S., & Imdadullah, M. (2011). A study on student satisfaction in Pakistani universities: The case of Bahauddin Zakariya University, Pakistan. *Asian Social Science, 7*(7), 209–219.

Ahmed, I., Nawaz, M. M., Ahmad, Z., Shaukat, M. Z., Usman, A., & Rehman, W. (2010). Does service quality affect students' performance? Evidence from institutes of higher learning. *African Journal of Business Management, 4*(12), 2527–2533.

Alam, S. (n.d.). Private higher education in Bangladesh: Challenges and opportunities. *Daily Sun.* https://www.daily-sun.com/printversion/details/575492/Private-Higher-Education-in-Bangladesh:-Challenges-and-Opportunities

Aminuzzaman, S. (2007). Overview of quality assurance in the context of Bangladesh. Paper presented at the Workshop on Quality Assurance, American International University–Bangladesh, Dhaka.

Andaleeb, S. S. (2003). Rejuvenating the nation's higher education system. Paper presented at the Workshop on Higher Education Reform, International University of Business Agriculture and Technology, Dhaka.

Andaleeb, S. S. (2024, September 23). Strengthening research universities in Bangladesh. *Dhaka Tribune.* https://www.dhakatribune.com/opinion/op-ed/359404/strengthening-research-universities-in-bangladesh

Ashraf, M. A., Ibrahim, Y., & Joarder, M. H. R. (2009). Management of quality in private universities in Bangladesh: An exploratory study. *Journal of Management and Sustainability, 2*(1), 57–63.

Barua, S., & Uddin, M. (2021). Research culture in Bangladeshi universities: Barriers and prospects. *Asian Journal of Education and Training, 7*(2), 123–131.

Faruky, M., Rahman, S., & Hasan, M. (2012). Student satisfaction at private universities in Bangladesh. *Bangladesh Education Journal, 11*(2), 35–47.

Friedrich-Ebert-Stiftung. (n.d.). *Private universities in Bangladesh – Possibilities and challenges.* https://bangladesh.fes.de/fileadmin/user_upload/pdf-files/15._Private_Universities__possibilities___challenges.pdf

Habibullah, M., Rouf, M. A., & Rana, M. (2012). Perception of factors affecting the quality of higher education: A study on selected private universities of Bangladesh. *International Journal of Information, Business and Management, 4*(2), 2–12.

Hafiz, G. A. S. (2005). *Quality assurance in conventional private universities of Bangladesh: Problems and prospects* (Unpublished doctoral dissertation). University of Dhaka.

Haque, N., Chowdhury, F., & Rahman, M. (2011). Quality of higher education in Bangladesh: An analysis. *Journal of Education and Practice, 2*(3), 25–35.

Hoque, N., Razzaque, M. A., & Zaman, K. (2013). Quality of education in Bangladesh: A survey on private business schools. *Information and Knowledge Management, 3*(5), 117–126.

Hossain, M. E. (n.d.). Drawbacks and prospects of the private university. https://na.eventscloud.com/file_Uploads/c4f8814ffef5db48a91e0230e0d5f1ca_Mohamed-Emran-Hossain.pdf

Huda, N., Alam, G. M., & Jasmon, G. B. (2010). The impact of management support on student satisfaction in private universities of Bangladesh. *International Journal of Management in Education, 4*(2), 129–142.

Kabir, A. H. (2018). Governance of private universities in Bangladesh: The myth of institutional autonomy. In *Academic freedom in Bangladesh* (pp. 135–156). Brill. https://brill.com/display/book/9789004724419/BP000014.xml

Lamanga, M. (2002). Determinants of education quality in private universities of Bangladesh. *Bangladesh Journal of Education and Development, 9*(1), 45–59.

Majumder, R., Karim, A., & Rahman, T. (2012). Challenges of higher education in Bangladesh: A study on quality and governance. *Bangladesh Education Journal, 11*(1), 23–36.

Masum, A. (2008). *Higher education governance in Bangladesh.* Dhaka: Academic Press.

Monem, M., & Baniamin, H. M. (2010). Higher education in Bangladesh: Status, issues, and prospects. *Pakistan Journal of Social Sciences, 30*(2), 293–305.

Naser, M. A. (2010). *Education quality of private universities in Bangladesh: Faculty resources and infrastructure perspective* (Master's thesis). North South University, Dhaka.

Navarro, M. M., Iglesias, M. P., & Torres, P. R. (2005). A new management element for universities: Satisfaction with the offered courses. *International Journal of Educational Management, 19*(6), 505–526.

QS Top Universities. (2025). *QS Asia University Rankings 2025.* https://www.topuniversities.com/asia-university-rankings?countries=bd

Rabbani, G., & Chowdhury, A. (2014). Governance challenges in higher education of Bangladesh. *Journal of Education Policy, 29*(4), 543–555.

Rouf, M. A., Rana, M., & Habibullah, M. (2015). Quality assurance in higher education: The case of private universities in Bangladesh. *International Journal of Academic Research in Business and Social Sciences, 5*(8), 112–123.

Sultan, P., & Wong, H. Y. (2012). Service quality in higher education: A review and research agenda. *International Journal of Quality and Service Sciences, 4*(2), 85–104.

The Business Standard. (2022, November 30). Private universities' focus on research paying dividends. https://www.tbsnews.net/bangladesh/education/private-unis-focus-research-paying-dividends-542106

University Grants Commission. (2008). *Annual report 2007.* Dhaka: UGC.

World Bank. (2014, March 19). *Bangladesh: Connecting minds in higher education.* https://www.worldbank.org/en/news/feature/2014/03/19/bangladesh-connecting-minds-in-higher-education