

Review Article

The Emergence and Functioning of the Modern Global University Ranking System

Meylis Annaorazovich Allamyradov , Kerim Annabayramovich Kertiev ,
Eziz Gurbandurdyevich Annakov* 

Faculty of Taxes and Taxation, Turkmen State Institute of Finance, Ashgabat, Turkmenistan

Abstract

This paper examines the prerequisites for the emergence and the stages of formation of the modern global ranking system for higher education institutions (HEIs). The study analyzes the key drivers behind the need for objective evaluation of university education quality at a global level, including internationalization processes, intensified competition among universities, and the expectations of employers and prospective students. Particular attention is paid to major international rankings, their methodologies, evaluation criteria, and their impact on university development. Both positive and problematic aspects of ranking systems are considered, including their influence on university strategy, academic mobility, funding, and research activities. Globalization has intensified competition among universities, increasing the significance of international rankings. These rankings affect institutional prestige, student choice, development strategies, and the global education market. Global rankings reinforce competition, influence academic reputation, attract investment, and shape international image. They serve as tools for attracting students, research talent, and strengthening educational exports. The diversity of ranking methodologies reflects differences in universities' evaluation priorities. Indicators such as student-to-staff ratios do not always objectively reflect education quality. Evaluation of research activities relies on publication and citation metrics but suffers from methodological limitations, ranking adaptation, and commercialization. The integration of new indicators and big data analytics is required. Rankings remain significant in global education, influencing university strategies. University selection is a multi-level process in which reputation and academic positioning play a key role. Global rankings are applied in economic analyses to aggregate data, assess regional potential, evaluate the quality-to-cost ratio, and study public perception of rankings and their importance. In conclusion, the study emphasizes the role of rankings as a tool for global university positioning and highlights the need for their further refinement, considering regional context and specificities of national education systems.

Keywords

University Rankings, Global Education System, University Classification, University Assessment Criteria, Ranking Methodology, Quality of Higher Education, Academic Mobility, CIS Countries

*Correspondence: Eziz Gurbandurdyevich Annakov (tax_trm@inbox.ru)

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1. Introduction

Ongoing globalization processes have transformed competition mechanisms across various sectors, extending them to the international arena. One manifestation of this trend has been the inclusion of specific institutional structures, such as higher education institutions (HEIs), in global competition [1].

Experts note that assessing the quality of university performance, particularly across different countries, presents a complex research challenge [2], due to methodological difficulties and variations in national higher education systems, cultural, and social contexts [3]. In response to increasing public and academic interest in comparative assessment of universities globally, from the late 20th to early 21st century, several countries began actively developing international university rankings [4]. These rankings aim to inform the general public, students, faculty, employers, and government bodies about the most successful universities worldwide [5].

2. Research Subject

The history of university rankings spans over three decades [6]. A qualitatively new phase in ranking development is associated with the transition from national to global evaluation systems. Since the beginning of the current millennium, the active formation of global university rankings has begun, highlighting the growing significance of international competitiveness [7].

Notably, the initiative to create the first global ranking originated from an Asian research institute, reflecting Asian countries' desire to integrate into the global academic space and demonstrate the competitiveness of their education systems. This period marks a new era in the history of academic rankings based on unified methodologies for assessing universities across countries [8].

Current analyses indicate that there are several hundred national rankings registered with the IREG Observatory on Academic Ranking and Excellence, along with at least ten prestigious global rankings, whose number continues to grow. Among the most recognized global rankings are the Academic Ranking of World Universities (ARWU) [9], QS World University Rankings [10], and the Times Higher Education World University Rankings (THE WUR) [11]. Many countries consider their universities' inclusion in top global rankings a national objective, reflecting both the universities' significance in the international education space and the country's global prestige.

In recent years, university rankings have become a significant component of the global education market [12]. Despite the absence of universally recognized methodological standards and the impossibility of fully objective evaluation, their influence on shaping modern academic and social realities is undeniable. Ranking systems perform not only an informational function but also an indirect regulatory role, impacting strategic decisions of universities, students, and employers.

For prospective students considering studying abroad, rankings serve as a guide in choosing a country, university, and program. Additionally, rankings are particularly important for graduates and researchers seeking employment in the international academic, research, or corporate sector [13].

3. Research Methods

Institutional reputation has become a key factor in shaping and strengthening a university's competitive position in national and global educational markets [14]. Rankings serve as crucial indicators of academic prestige and research capacity. Participation in national and international rankings, especially among leaders, enhances a university's appeal to students, employers, research partners, investors, and government bodies. High-ranking positions often become grounds for reallocating budgetary subsidies, obtaining grants, and attracting additional resources, collectively enhancing long-term competitiveness.

High positions in global academic rankings not only strengthen university reputations but also contribute to the positive image of the country internationally [15]. In the context of deepening educational globalization, academic mobility is increasingly recognized as a key factor in human capital development, regional competitiveness, and economic growth. Universities' participation in international rankings expands the export potential of education, attracts foreign investment in research and education, and increases intellectual inflow rather than "brain drain."

According to the *Global Education Monitoring Report* and UNESCO's International Institute for Educational Planning, over 200 million students are currently enrolled globally, with around 4 million studying abroad [16]. The United States and the United Kingdom account for more than 40% of international students, whereas Germany and France together host around 9%. The CIS countries, despite significant educational potential, attract only about 5% of the global international student body, highlighting the need for stronger national policies in academic diplomacy and international positioning.

The effectiveness and quality of universities in most authoritative rankings are evaluated across key areas, including educational, research, international, and entrepreneurial activity, including commercialization of research. Modern ranking systems encompass a wide range of classifications—from student and specialized rankings to national and global systems. Ranking models are constructed based on numerous indicators, differing in type, number, and weight, which results in considerable discrepancies in universities' positions across various rankings.

For instance, in the influential QS World University Rankings (QS WUR), the research citation index accounts for 30% of the overall score [17], whereas in the Times Higher Education ranking (THE WUR), it accounts for 20% [18]. Greater

methodological differences are evident when comparing international and Russian rankings. For example, the Russian “Expert RA” ranking, characterized by high detail and focus on research quality, includes 16 evaluation criteria, whereas the ARWU ranking from Shanghai Jiao Tong University uses only three primary indicators for research evaluation [19]. This illustrates methodological diversification and differing priorities: domestic systems aim for multi-faceted measurement of academic potential, while global rankings emphasize simplicity for broader audience comprehension.

The diversity of methodologies in modern rankings explains significant variations in positioning of the same universities across classifications. No ranking model can be considered a universal or fully accurate tool for measuring education quality. A vivid example of methodological convention is the assessment of teaching quality, often reduced to the student-to-staff ratio [20]. This indicator has improved the ranking positions of some CIS universities, reflecting historically high faculty numbers relative to student cohorts, with ratios of 1:7–1:8, compared to 1:15–1:17 in Western Europe and North America. These differences are rooted in cultural-historical traditions and fundamentally distinct pedagogical models.

In Western systems, faculty act primarily as tutors or academic supervisors supporting students’ independent learning. In contrast, Russian and most CIS models feature heavier teaching loads and active faculty involvement in curriculum design. Nonetheless, ranking agencies assign high importance to the quantitative “student-to-staff” metric, assuming increased faculty numbers automatically improve education quality [21]. While logically justifiable, empirical evidence only partially supports this assumption, as it neglects qualitative characteristics of pedagogy and context-specific educational practices.

Research quality in most rankings is evaluated via publication and citation analysis [22]. Indexing platforms like Scopus, Web of Science, and Dimensions serve as data sources, each using its own inclusion criteria. Western platforms apply stringent standards, indexing only peer-reviewed journals with high impact factors and adherence to international research ethics. In contrast, some national systems, including Russia, may include publications with questionable scientific significance, reducing accuracy and objectivity [23].

Universities often adapt internal strategies to ranking criteria, a phenomenon known as “ranking adaptation,” including increasing indexed publications, proportion of English-language works, and co-authorship, which may compromise assessment objectivity [24]. Ranking agencies periodically modify methodologies, introduce new indicators, and adjust weights to maintain credibility and relevance [25].

Rankings are also commercial projects aimed at increasing platform traffic, attracting advertising, and providing consulting services [26, 27]. Rankings maintain audience interest through dynamic positioning, creating a “thrill” effect that incentivizes continuous engagement.

A critical issue is ranking reliance on traditional research-focused university models emphasizing academic productivity and

citations. Emerging “University 3.0” models integrate academic, research, and entrepreneurial functions [28], including innovation, social impact, and knowledge transfer, which are difficult to quantify. Indicators such as reputation surveys are used but are sensitive to cultural and subjective biases [29].

The rapid growth of data and information technologies makes big data analytics increasingly relevant. Automated algorithms could track alumni outcomes, company performance, and career trajectories, serving as proxies for education quality and institutional capacity [30]. Despite critiques, rankings remain entrenched in the global education system, influencing university strategy and international branding [31, 32].

Global ranking pluralism reshapes applicant-university interactions. Chinese research notes a two-step selection process: first, choosing a country, then a specific university [33]. Clarke proposes a three-stage model including motivation, geographic preference, and university selection; empirical evidence suggests adding a fourth step—department or faculty choice based on academic reputation and subject rankings [34].

Rankings should be viewed as intermediate analytical tools rather than end goals. University success depends more on strategic positioning and institutional flexibility than mere ranking positions [35-39]. Global rankings support both primary (economic/strategic) and secondary (research/analytical) applications [40, 41].

4. Conclusions

Globalization intensifies competition for financial resources, talent, and entrepreneurial potential. Higher education competitiveness, reflected in quality education and research programs, has become a strategic priority. Competitive universities require long-term development across education, research, innovation, infrastructure, and organizational sustainability. Universities must pursue systemic improvements to strengthen global market positions and maximize the return on educational and research investments.

Abbreviations

HEIs	Higher Education Institutions
IREG	International Ranking Expert Group
ARWU	Academic Ranking of World Universities
QS	Quacquarelli Symonds
THE WUR	Times Higher Education World University Rankings
UNESCO	United Nations Educational, Scientific and Cultural Organization
CIS	Commonwealth of Independent States
Expert RA	Russian Rating Agency
University 3.0	A Model of Modern Universities Integrating Education, Research, and Innovation/Entrepreneurship

Author Contributions

Mejlis Annaorazovich Allamyradov: Conceptualization, Formal Analysis, Funding acquisition, Investigation, Methodology, Resources, Supervision

Kerim Annabayramovich Kertiev: Project administration, Resources, Supervision, Visualization, Writing – review & editing

Eziz Gurbandurdyevich Annakov: Conceptualization, Data curation, Funding acquisition, Investigation

Conflicts of Interest

The authors declare no conflicts of interest.

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