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Exploring the perspectives of academic and senior management staff on the influence of global university rankings in the higher education context of Kazakhstan

EXPLORING THE PERSPECTIVES OF ACADEMIC AND SENIOR MANAGEMENT STAFF ON THE INFLUENCE OF GLOBAL UNIVERSITY RANKINGS IN THE HIGHER EDUCATION CONTEXT OF KAZAKHSTAN

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Abstract

Global university rankings (GURs) have gained popularity and practical importance in the last few decades as they are used as a proxy indicator of a university's reputation and quality by different stakeholders including governments, funders, and students. Deepening globalisation processes, competition between national university systems and demand for public organisations to be accountable and efficient have enhanced the role of GURs in higher education (HE). Although GURs are exposed to numerous critiques, including methodological limitations, they satisfy a demand for information about the quality of HE by making comparative assessments of thousands of universities globally and are becoming influential in decision-making pertaining to HE reforms and policymaking. Higher education institutions (HEIs) are eager to participate in GURs in building their global brand visibility and reputation, and in recruiting potential students.

The purpose of this study was to examine the perceptions and experiences of academic and senior management staff on the impact of GURs at a public university, one of the leading universities of Kazakhstan in major GURs. This study adopted a qualitative exploratory design that included interviews (N = 17) with academic and senior management staff. Institutional theory and a theory of academic imperialism guided the study and provided useful perspectives in explaining the behaviour of HEIs in response to GURs as well as the growing hegemony of GURs in HE, especially in developing countries.

The findings suggest that participation in GURs has led to profound changes in the sampled university, especially in terms of the prioritisation of the research performance of HEIs. In particular, this study reveals that GURs play a significant role in Kazakhstan's HEIs strategies to regulate research activities through accountability and incentivisation policies. The findings indicate that the university focused on improving its ranking position through pressure to publish and via performance-based incentives. However, these measures did not result in improved research performance. The findings also revealed barriers to enhanced research performance, including limited English language proficiency, tension between teaching and research, and insufficient funding of research. A major finding is that academics at the university under study employed various gaming techniques such as gift authorship, publishing in predatory journals and exploiting methodological limitations of GURs in order

to raise "an impression" of research productivity. Institutional data indicated that HEIs in Kazakhstan mainly improved their ranking position through reputational indicators and the Faculty Student Ratio indicator while citation indicators, which could reflect research productivity, are consistently low across all HEIs. This study makes a timely contribution to understanding the impact of GURs on HEIs of Kazakhstan as a country with ambitious plans for developing its HE sector.

Keywords: Global university rankings; Higher education; Research performance; Institutional theory; Theory of academic imperialism; Kazakhstan

Acknowledgments and dedication

First, I want to express my sincere gratitude to my supervisor Professor Richard Watermeyer, who has guided me throughout this study and provided critical advice. Richard, thank you for your intelligent and personalised guidance, your patience, and understanding. I also want to express my deep gratitude to Navin Kikabhai for providing me with constructive feedback on my draft thesis.

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I also wish to express my appreciation for the love and support I have received from my extended family, siblings and friends, who always believed in me. I also want to acknowledge my University of Bristol fellow doctoral students, especially Rentauli Silalahi, for her support throughout the dissertation journey. And last but not least, my warmest thanks go to the participants of this study for their active involvement.

Dedication

I dedicate this dissertation to my mother Sholpan (Venus), who like Venus illuminates my life, and who was the best student in secondary school yet never had the opportunity to attend university.

Author's declaration

I declare that the work in this dissertation was carried out in accordance with the requirements of the University's Regulations and Code of Practice for Research Degree Programmes and that it has not been submitted for any other academic award. Except where indicated by specific reference in the text, the work is the candidate's own work. Work done in collaboration with, or with the assistance of, others, is indicated as such. Any views expressed in the dissertation are those of the author.

SIGNED: DATE: 21st March 2023

Aigerim Bayanbayeva

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List of abbreviations

ARWU – Academic Ranking of World Universities
EHEA – European Higher Education Area
GURs – Global University Rankings
HE – Higher Education
HEIs – Higher Education Institutions
MoES – Ministry of Education and Science
MoSHE – Ministry of Science and Higher Education
NPM – New Public Management
QS WUR – Quacquarelli Symonds World University Rankings
THE WUR – Times Higher Education World University Rankings
WCU – World Class University

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Chapter 1: Introduction

This thesis aims to examine the perceptions and experience of academics and senior management on the impact of GURs at a public university in Kazakhstan. This qualitative exploratory study involved conducting 17 semi-structured interviews with senior management and academics.

The purpose of this chapter is to provide the introduction to the study. It outlines a background of the research problem, the problem statement and rationale for the study, the research context, research aims and research questions. The chapter concludes with an overview of the thesis structure.

Background of the problem

Over the last few decades GURs have become a major feature of HE and their role and influence have been growing (Bernasconi & Knobel, 2021; Buckner, 2020; Erkkilä & Piironen, 2020; Kaidesoja, 2022; Kwiek, 2016; Shattock, 2017; Stack, 2021b). Despite their relatively short history, GURs have intensified multiple changes in HE such as a performative shift in universities, influencing HE policy on international, national, and institutional levels (Hazelkorn, 2018; O'Connell, 2013; Rauhvargers, 2014; Vidal & Ferreira, 2020). The three most influential and prestigious GURs are Academic Ranking of World Universities (ARWU), the Quacquarelli Symonds World University Rankings (QS WUR) and Times Higher Education World University Rankings (THE WUR) (Moed, 2017; Stack, 2020). In addition, there are other popular GURs such as U-Multirank, Leiden Ranking, SCImago Institutions Rankings, The Center for World University Rankings. GURs differ in their methodology and data sources, but all they tend to assess teaching and research activities of HEIs as well as institutional reputation (W. N. Espeland & Sauder, 2016; Johnes, 2018; Kivinen et al., 2017; Leiber, 2017; Selten et al., 2020; Wilbers & Brankovic, 2021).

Despite numerous critiques of GURs, including rankings-associated policymaking and practices, governments and HEIs around the world actively employ GURs as a policy instrument in striving for excellence and implement various strategies such as national excellence initiatives and focus on research performance in response to GURs (Hazelkorn,

2018; Jin & Kim, 2021; Salmi, 2016; Shin et al., 2011). GURs are one part of a New Public Management (NPM) paradigm for HE and reflect the ubiquity of performance management and evaluation in universities, their neoliberalisation and organisation according to market logic (Espeland, 2020; Marope et al., 2013; Shore & Wright, 2020; Watermeyer & Tomlinson, 2022). Thus, GURs are often perceived as an external assessment of the performance and quality of HEIs as they compare and evaluate universities based on ordinal metrics (Federkeil, 2008; Hazelkorn, 2015). GURs allow the university to understand its position at global and regional levels, and to assess its strengths and weaknesses. Brankovic et al. (2018, p.281) argue that "an important factor of the success of global university rankings is their embeddedness in the competition between countries". For nation-states, the standing in GURs has become a matter of policy as it promotes the competitiveness of the country as a whole (Brankovic et al., 2018; Lee & Naidoo, 2020). For HEIs, ranking position in GURs affects institutional reputation as variously perceived by students, employers, investors, and the government (Shin et al., 2011; Stensaker et al., 2019). Given these factors, HEIs around the world are increasingly feeling the pressure to perform well in GURs.

Problem statement and rationale for the study

The growing role of GURs is associated with processes of globalisation and increased competition in HE worldwide (Brankovic et al., 2018; Erkkilä & Piironen, 2020; Lee & Stensaker, 2021; Naidoo, 2018). To survive in a highly competitive environment, HEIs have to focus on results, performance and effectiveness (Bleiklie, 2020; Komljenovic & Robertson, 2016; Mintz, 2021). In a globalised and highly competitive HE sector, GURs provide universities with the opportunity to gain global reputation (Blackmore, 2016; Hazelkorn, 2014; Sadlak, 2020). However, in response to GURs, universities tend to focus on particular indicators such as citation metrics, and this can result in neglecting other important aspects of HE such as teaching (Fassett & McCormick, 2021; Lim, 2018; Shattock, 2017). As the indicators of most GURs prioritise the research performance of universities, this has led HEIs to focus on research activities (Brew et al., 2016; Croucher et al., 2018; Enders, 2014; Marginson, 2022; Yang et al., 2021). With the growing popularity of GURs and their becoming a powerful policy instrument for HE reforms, various studies have attempted to explore and conceptualise the impact of GURs at international levels (Brankovic et al., 2018; Gornitzka,

2013; Hazelkorn, 2015; Kwiek, 2016; Shin et al., 2011; Yudkevich et al., 2016). However, to date, there have been no empirical studies in Kazakhstan aimed at examining the impact of GURs on national universities while the government of Kazakhstan is actively using GURs in building its HE policy and HEIs in Kazakhstan are obliged to participate in GURs by the government. In this regard, it is important to understand how HEIs in Kazakhstan cope with the impact of GURs.

There are multiple reasons that make Kazakhstan interesting in understanding the behaviour of HEIs in the context of increasing influence of GURs. Firstly, the legacy of the Soviet past, including a centralised governance system and a focus on certain academic disciplines, influences the behaviour of universities as they navigate the transition to a more decentralised and globally oriented system (Hartley et al., 2016; Huisman et al., 2018; Lodhi & Ilyassova-Schoenfeld, 2022). Secondly, the geopolitical position of Kazakhstan between Russia and China affects its HE system significantly (Lee et al., 2021; Leskina & Sabzalieva, 2021). The way universities approach GURs and international collaborations is dependent on the impact of neighbouring countries and geopolitical considerations. Thirdly, Kazakhstan has proactively engaged in policy borrowing, adopting Western-style HE systems, and collaborating with international universities (Agbo et al., 2023; Kuzhabekova et al., 2018; Lodhi & Ilyassova-Schoenfeld, 2022). Understanding how these reforms are implemented and how they impact university behaviour is crucial. Moreover, the government's commitment to improving the competitiveness of national universities, as depicted in the strategic documents and initiatives, creates a unique context. Universities are competing both nationally and globally, with GURs being a key indicator of success. The dynamic interplay between government policies, institutional responses, and the impact of GURs on university behaviour is noteworthy (Anafinova, 2020). Finally, the government's encouragement of research, the establishment of research universities, and the focus on improving research performance of HEIs highlight a shift in priorities (Jonbekova, 2020; Kuchumova et al., 2023; Kuzhabekova & Ruby, 2018). It is essential to understand how universities manage their teaching and research, attract research funding, and contribute to the knowledge economy. Therefore, institutional responses to GURs in Kazakhstan are influenced by a mix of unique historical, political, and economic factors. The blend of Soviet legacy, policy reforms,

government initiatives, and geopolitical considerations makes Kazakhstan an intriguing case study in understanding the dynamics of HE in a global context.

My personal interest in examining the impact of GURs on HEIs in Kazakhstan stems from my personal experience of teaching and researching in the HE context of Kazakhstan. This experience includes firsthand observations of how HEIs in Kazakhstan respond to the growing emphasis on GURs, their impact on academic practices, the broader educational landscape, and shifts in institutional priorities. By combining my professional expertise with a deep understanding of the local dynamics, I aim to contribute valuable insights into how GURs affect the strategic direction, priorities, and behaviour of HEIs in Kazakhstan.

Research context: Higher education in Kazakhstan

Kazakhstan is the world's largest landlocked country, and the ninth-largest country with 2,724,900 square kilometres of land area and with a 20 million population. As Central Asia's largest economy and mineral-rich country, Kazakhstan is actively promoting the policy of establishing a knowledge-based economy (Sabzalieva, 2017; Toimbek, 2022; Yusuf, 2015). According to the Bureau of National statistics of the Agency for Strategic planning and reforms of the Republic of Kazakhstan and the Ministry of Education and Science (MoES), in the 2022-2023 academic year, there were 120 HEIs in Kazakhstan. The number of students is more than 623,000. In terms of the language instruction, the share of students studying in Kazakh language is 64.9%, in Russian - 29.6%, and in English - 5.5% (Bureau of National statistics, 2021; MoES, 2022).

The strategic geopolitical position of Kazakhstan, situated between the biggest economies of Russia to the north and China to the east, presents distinctive opportunities and challenges that significantly influence its national economy, including the HE sector (Harutyunyan, 2022; Hudson, 2022; Laruelle et al., 2019; Leskina & Sabzalieva, 2021; Rangsimaporn, 2020). Geopolitical considerations play a key role in Kazakhstan's decision to engage in international partnerships and collaborations in HE, developing research and innovation, student mobility and exchange programmes. Kazakhstan aims to establish relationships that are in line with its geopolitical interests and strategic goals, and collaborating with universities in Russia and China is the top priority for enhancing regional ties and leveraging economic opportunities, including China's Belt and Road Initiative (Lee et al., 2021; Leskina & Sabzalieva, 2021).

Furthermore, the historical influence of the Soviet Union, where Russian was the dominant language, continues to be a factor (Kuzhabekova, 2019; Yedgina et al., 2023). It is a delicate geopolitical consideration that affects language policies in HE by balancing the promotion of Kazakh as the state language and acknowledging the importance of Russian in regional interactions. Thus, the HE landscape in Kazakhstan is significantly influenced by geopolitical conditions. Understanding and navigating these geopolitical forces is vital for the successful development and internationalisation of HE in Kazakhstan under the influence of GURs.

HE in Kazakhstan, as a legacy of the Soviet past, has undergone significant changes since gaining independence from the former Soviet Union in 1991 (Huisman et al., 2018; Lee & Naidoo, 2020). These changes were facilitated by both the internal socio-economic and political situation and external catalysts such as globalisation of HE (Huisman et al., 2018). Since the early 1990s, the government has been implementing numerous reforms in HE to improve the quality of education and align it with international standards and the HE system of Kazakhstan has witnessed the growth of privatisation, a shift in language policy and funding, the introduction of state grants, and other important changes (Ahn et al., 2018; Ait Si Mhamed et al., 2021; Bischof, 2018; Hartley et al., 2016). In the early years of independence, there were only 39 HEIs in Kazakhstan and their numbers increased considerably due to the rise of private HEIs (Hartley et al., 2016). However, privatisation and marketisation of HE in Kazakhstan have been cause of serious political debate on the quality of HE and more than 20 private HEIs lost their licences in 2007 as a result of tighter licencing regulations (Kerimkulova & Kuzhabekova, 2017). In the following years, the total number of HEIs in Kazakhstan declined from 167 in 2008 to 122 in 2018 (Huisman et al., 2018). This trend was also fostered by the development of the quality assurance of HE in Kazakhstan. In 2001, accreditation of HEIs was introduced for the first time in the form of state accreditation, which was conducted by the MoES based on 27 quantitative performance indicators which included, for example, the number of academic staff with degrees, the number of students, the average scores of students upon admission. However, this initiative was heavily criticised by various stakeholders and was stopped as it ignored international requirements for quality assurance such as use of internal quality assurance procedures and periodic reviews (Kerimkulova & Kuzhabekova, 2017). In 2011, as a result of the reform of quality assurance in HE, accreditation of HEIs by non-profit non-governmental organisations was introduced. These

organisations should be recognised by the state and included in the National Register of Accreditation Agencies. At the moment the National Register includes 6 national independent agencies and 5 international agencies. HEIs that have passed institutional and programme accreditation are exempt from state attestation for the period of accreditation. Moreover, only accredited HEIs can enrol state-funded students (Bischof, 2018). Along with these changes, since 2006, national rankings of universities have been compiled with the aim of achieving the main objectives of universities – improving the quality of education, enhancing the competitiveness of graduates, and increasing the export potential of educational services. Since 2014, national rankings of HEIs in Kazakhstan are compiled by the Independent Agency for Accreditation and Rating.

HE governance in Kazakhstan is characterised by a heavily regulated, centralised system with a government playing a key role in regulating this sphere yet recently there has been a concurrent growing tendency towards institutional autonomy (Hartley et al., 2016; Huisman et al., 2018). The key features of this heavily centralised governance system are centralised decision-making, resource allocation, government oversight, standardisation of programmes, alignment with national development goals, centralised data collection and reporting etc. According to the Concept for the development of higher education and science in the Republic of Kazakhstan for 2023-2029, which is one of the main strategic documents in the HE sector of Kazakhstan, the main expected results of the development of the HE system in Kazakhstan by 2029 are follows: 1) increase the degree of satisfaction with the system of higher and postgraduate education up to 78%; 2) 15 universities in Kazakhstan, listed in the QS-WUR ranking, TOP-700 (currently – 9 universities); 3) opening of 12 branches of foreign universities (currently – 3 universities); 4) 1,400 foreign experts are involved in teaching activities; 5) The functioning of the lifelong learning system for the adult population, taking into account the skills and competencies of the previous level of education, as well as results of non-formal education; 6) 55% – degree of population satisfaction with the range of services and quality of non-formal education; 7) 1% - expenses on science from the gross domestic product; 8) 30% – increase in patent activity from national applicants; 9) 30th place in the GII ranking "R&D financed by business". Nevertheless, in recent years in Kazakhstan, the focus has been on shifting towards decentralised control with greater institutional autonomy. For example, Hartley et al. (2016) found that academic leaders in Kazakhstan have a desire for more

institutional autonomy. However, they revealed that there is a lack of clarity on how much fiscal and academic autonomy is desirable, and there are still questions about the capacity of all institutions to function without significant ministerial oversight. Similarly, the report by the European University association revealed the challenges of implementing university autonomy in Kazakhstan (European University Association, 2018). The key findings demonstrate the complexity of Kazakhstan's HE landscape, which is characterised by over-regulation, limited autonomy for most universities, a top-down governance approach, and difficulties with strategic planning and implementation. They discovered that the Ministry's strict control encompasses governance, financial management, and academic programmes. Although universities may have some flexibility in staffing, their ability to attract and reward staff is limited by funding mechanisms. Nazarbayev University is a notable exception, as it benefits from a specific regulatory framework that significantly enhances its level of autonomy. However, the gap between the regulatory and funding conditions for Nazarbayev University and the rest of the sector is wide, limiting the transferability of its practices to other universities in Kazakhstan.

Policy borrowing of international practices is also an integral to the government's HE reform policy in Kazakhstan. Kazakhstan has engaged in policy borrowing in HE in several ways, including adopting Western-style HE systems, collaborating with international universities and implementing quality assurance mechanisms (Huisman et al., 2018; Kuzhabekova et al., 2018). In 2010, Kazakhstan joined the Bologna Process and began to reform its HE system in accordance with European standards (Huisman, 2019; Lodhi & Ilyassova-Schoenfeld, 2022; Monobayeva & Howard, 2015; Tampayeva, 2015). The Bologna Process is a global initiative aimed at creating a unified and compatible higher education system across Europe, a European Higher Education Area (EHEA), by 2010. The process was launched on June 19, 1999, with the signing of the Bologna Declaration, which took place at the University of Bologna in Italy, from where the declaration and the process got its name. The creation of the EHEA implies a unified education system, aimed at greater compatibility and comparability of the HE systems with a focus on six action lines: adoption of easily readable and comparable degrees, the establishment of a system of credits, the promotion of mobility, the promotion of European co-operation in quality assurance, the promotion of the European dimension in HE through the Erasmus Mundus scheme (joint masters programme that designed and

implemented by an international partnership of HEIs), and the adoption of a system based on two cycles of undergraduate and graduate qualifications (Huisman et al., 2012; Tampayeva, 2015; Zahavi & Friedman, 2019). The major reforms in HE of Kazakhstan after joining the Bologna Declaration included the introduction of a Western-type three-tier system: bachelor, master and doctorate, the credit system, focus on student mobility, improving quality assurance and the recognition of qualifications (Lodhi & Ilyassova-Schoenfeld, 2022; Tampayeva, 2015). Currently, Kazakhstan is the only member of the EHEA among the Central Asian countries, which makes Kazakhstan a particularly interesting case study (Sabzalieva, 2017). Under these changes, the government of Kazakhstan is actively implementing integration into global HE by focusing on GURs and the competitiveness of national HEIs.

The importance of GURs and enhancing the competitiveness of national HEIs is specified in the main strategic documents of Kazakhstan, including the "Kazakhstan-2050" Strategy, the Concept for the development of higher education and science in the Republic of Kazakhstan for 2023-2029, the State Programme for the development of education and science of the Republic of Kazakhstan for 2020-2025. In particular, The State Programme for the development of education and science of the Republic of Kazakhstan for 2020-2025 specified goals and indicators for national universities to improve their positions in GURs. The State Programme as a main policy document in HE determines the increase in the competitiveness of national HEIs as one of the main aims which shows the role of government in shaping a particular policy focus on market competitiveness (State Programme, 2020). Since the representation of universities in GURs is recognised as one of the indicators of the competitiveness of HE, the government actively employs GURs in determining long-term goals in HE (Anafinova, 2020; Sagintayeva & Kurakbayev, 2012). In particular, the Programme has set the target to include at least 3 universities in the QS WUR top 200 by 2025. In response to these initiatives, national universities set institutional targets to improve the ranking position, and as a result the number of HEIs of Kazakhstan in GURs is growing year by year. For example, 16 universities out of 120 Kazakhstani HEIs were represented in the QS WUR 2023 compared to 2020, when there were 10 universities. Also, there are 4 Kazakhstani universities ranked in THE WUR 2023, while in 2019 there were only 2 universities. It is especially worth noting that the ranking positions of the leading universities of Kazakhstan in the QS WUR is also improving. For instance, the leading university in Kazakhstan Al-Farabi

Kazakh National University increased its position from 220 in 2019 to 150 in 2023 in the QS WUR. The QS WUR data indicate that it has mostly improved its ranking position through reputational indicators such as Academic reputation and Employer reputation. The analysis of this trend will be presented in the discussion chapter.

The government of Kazakhstan is implementing various strategic initiatives in increasing the competitiveness of national universities. On October 8, 2020, the Council for Improving the Competitiveness and Optimisation of Higher Educational Institutions was established, which aims to develop proposals and recommendations for improving the competitiveness of HEI in Kazakhstan. In 2021, the National Education Project "Quality Education "Educated Nation" was adopted with an aim of improving the quality of education for students at all levels of education. The project has a specific aim of improving the quality of HE by creating 20 centres of academic excellence, establishing research universities, and setting up branches of prestigious international universities in Kazakhstan. Under these developments, excellence of national HEIs became highly politicised and transformed to a policy tool to raise the global standing and reputation of HEIs. GURs are also important in determining partner universities and sending students to study abroad under the Bolashak international scholarship programme, where students can only apply to the top 200 universities, according to major GURs such as the QS WUR, THE WUR and ARWU. Thus, given the particular interest of the government of Kazakhstan and national universities in GURs, the results of this study are especially essential.

Influenced by GURs, the government of Kazakhstan strongly encourages universities to pursue research despite the fact that HEIs in Kazakhstan are predominantly teaching-oriented (Lee & Kuzhabekova, 2019). Additionally, the government not only finances existing universities but also seeks to create new research universities with the aim to build world class universities (WCU). This is partly due to the fact that top ranked WCU are considered as powerful drivers of regional and national economies (Salmi, 2009; Shin et al., 2011). Salmi (2009, 2011) argues that the establishment of new research universities is an important way of creating WCU. Accordingly, one of the significant steps in developing a competitive HE system in Kazakhstan was the creation of Nazarbayev University, a Western-style, English-medium university, in 2010 (Lee & Naidoo, 2020; Sabzalieva, 2017). The university established partnerships with leading research universities such as University of Cambridge, UCL, and

University of Pennsylvania. In a recent speech, President Tokayev, K. highlighted the important contribution of Nazarbayev University in improving the quality and competitiveness of HE and announced the creation of 2 more regional research universities in 2022 by using the model of the Nazarbayev University.

In 2015, by the Order of the Minister of Education and Science of the Republic of Kazakhstan, the criteria for the classification of HEIs in Kazakhstan were adopted. According to this order, HEIs are classified as follows: 1) national research university; 2) research university; 3) national higher education institution; 4) university; 5) academy; 6) institutions; 7) organisations equated to higher educational institutions (conservatory, specialised school). There are specific requirements for each category. For example, the criteria for national research universities include requirements such as the proportion of academic staff with academic degrees – at least 70%; the share of masters and doctoral students studying in postgraduate education programmes – at least 15%; the share of postgraduate education programmes developed with the participation of foreign partner universities included in the top 200 best universities in the world in accordance with the THE WUR – at least 20%; the share of invited international academics and researchers – at least 12%; the share of articles co-authored with international researchers published in international high-ranked journals indexed by Web of Science or Scopus over the past 3 years – at least 10%; the ratio of the number of articles published in international high-ranked journals indexed by Web of Science or Scopus over the past 3 years to the total number of academic staff – at least 1:3; the average level of citation of articles published in international high-ranked journals indexed by Web of Science or Scopus over the past 5 years – at least 2.0. The order states that the criteria for classification were developed taking into account the methodology of major GURs – the QS WUR and THE WUR, which shows the growing influence of GURs on the national HE system of Kazakhstan. It also indicates the government's intention to build and develop a research university model in Kazakhstan.

In 2021, the new model of classification of HEIs with different levels was introduced which aimed at further enhancing the competitiveness of HEIs: 1) international and national level universities; 2) regional level universities; 3) sectoral level universities; 4) the rest of the universities. As Deputy Prime-Minister E.Tugzhanov stated, this classification of universities will be based on the results of teaching and research activities, internationalisation, as well as

their contribution to the economy of the country, region and industry (*Vuzy Kazakhstana Pereydut Na Novuyu Klassifikaciyu*, 2021). In particular, the results of research activities will be determined depending on the number of citations of the academic staff, research collaboration, income from the commercialisation of research projects, and the number of publications in high-ranked international journals.

Another recent major change in the HE sector of Kazakhstan is the reorganisation of the Ministry of Education and Science into two ministries in June 2022 – the Ministry of Science and Higher Education (MoSHE), responsible for tertiary education, science, and innovation and the Ministry of Education, responsible for pre-tertiary education. One of the main strategic aims of the new ministry is improving the competitiveness and research performance of HEIs. Findings of the study by Lee and Kuzhabekova (2019) show that supporting research potential in Kazakhstan is an important step in building a HE system that is capable of competing in GURs. The government encourages the improvement of the position of national universities in GURs in various ways, including by providing more research funding and state grants (Kasa et al., 2020). Overall, the national HE policy of Kazakhstan underlines that positioning in GURs is a key indicator of improving the national HE system. Therefore, currently GURs serve as one of the important means of determining HE policy in Kazakhstan.

To summarise, the concept of a "good university model" for Kazakhstan includes several key aspects that are in line with the country's strategic goals and aspirations for HE. This model is envisioned to contribute to the overall development of the nation and enhance its global standing. The key features that constitute a "good university model" for Kazakhstan include academic excellence, internationalisation, research and innovation, performance in GURs, institutional autonomy, quality assurance, alignment with national development goals, inclusivity and diversity, and continuous improvement.

Research aims and research questions

The aim of this study is to investigate the impact of the policy commitment to GURs on HEIs in Kazakhstan. Specifically, the study aims to explore how the policy commitment to GURs has affected HEIs, examine the perceptions and reactions of academics and senior university

management staff toward the utilisation of GURs within their institution, and assess the extent to which GURs influence the research performance and productivity of HEIs in Kazakhstan. To address the study aim, the next central key research question has been formulated:

- **How has the policy commitment to global university rankings affected higher education institutions in Kazakhstan?**

Additionally, following sub-research questions guided the study:

- How do academics and senior university management staff perceive and react to the utilisation of GURs within their institution?
- How have GURs influenced the research performance and productivity of the university?

Thesis structure

The thesis is organised into six chapters. Chapter 2 examines and critically analyses the literature available on GURs from an international HE perspective. The chapter begins with examining the global trends in HE such as globalisation, internationalisation, and marketisation, which have triggered the growing role of GURs. It next analyses the concept of GURs and then moves on to explore the impact of GURs on research performance of HEIs. After that, the chapter explores the impact of GURs on HE policy and HEIs by focusing on the national and institutional responses to GURs. Finally, it presents the theories guiding the study.

Chapter 3 introduces the research methodology of the study. It first explains the research questions. Then, it describes the research design of the study and gives the rationale for the selection of a qualitative exploratory design. It next explains sampling strategy, data collection methods, and data analysis approaches. Finally, ethical considerations and limitations of the methodology are described.

Chapter 4 presents the findings of the study. The findings are organised according to the themes.

Chapter 5 provides a discussion of the findings of the study and compares the findings with the existing literature.

Chapter 6 concludes the thesis and also provides contributions of the study, implications and recommendations for policy and practice, limitations of the study and recommendations for future research.

Chapter 2: Literature review

Introduction

The purpose of this chapter is to examine and critically analyse the literature on GURs in order to situate the current research and identify possible gaps. As a result of analysing available literature, the chapter is divided into five sections, which consider the different aspects of GURs and will inform research questions. The first section analyses global trends in HE. These major global trends will be discussed through the lens of their relevance to the GURs, the focus of this study. The second section examines the concept of GURs by considering the role of rankings in global HE, a summary of main GURs and their methodology, the role of GURs in HE and critiques of GURs. The third section briefly looks at the research performance of universities. The fourth section reviews the literature on the impact of GURs on HE policy and HEIs by focusing on the national and institutional responses to GURs. Finally, the last section unpacks theories guiding the study – the institutional theory and the theory of academic imperialism.

Global trends in higher education

Globalisation and internationalisation

Globalisation and internationalisation have become central driving forces reshaping the character and functions of HE dramatically (Lee & Stensaker, 2021; Mok, 2016; Rider, 2020). Globalisation is a complex concept, and perspectives on globalisation vary depending on the personal stance (Parjanadze, 2009; Verger, 2019). Three perspectives provide valuable insights into the ongoing discussion about the consequences of globalisation: hyperglobalists, sceptics and transformationalists (Held & McGrew, 2003; Parjanadze, 2009). Hyperglobalists tend to overstate the impact of economic globalisation on state sovereignty, advocating globalisation has a powerful effect on transforming the world into a single, integrated global system. On the contrary, sceptics assert that nation-states continue to play a significant role in shaping global processes. Transformationalists hold an intermediate position in relation to globalisation. They acknowledge the transformative nature of globalisation, but they stress the importance of local and regional factors in shaping the manifestation of global processes. This study follows a transformationalist perspective as it acknowledges the intricate and non-

uniform effects of globalisation on diverse nations. Kazakhstan is actively promoting the globalisation of HE, both on a global scale and by fostering collaboration with neighbouring countries. Kazakhstan's geopolitical position, nestled between the vast nations of Russia and China, presents both unique opportunities and challenges for its HE sector (Harutyunyan, 2022; Hudson, 2022; Laruelle et al., 2019; Rangsimaporn, 2020).

In the context of globalisation, the competitive landscape for HEIs is shaped by the interplay between global forces and localised responses. According to Knight (2011, p.10), "globalization is the process that is increasing the flow of people, culture, ideas, values, knowledge, technology, and economy across borders, resulting in a more interconnected and interdependent world'. In this changing context, HEIs across the globe are operating in a highly competitive environment (Brankovic et al., 2018; Erkkilä & Piironen, 2020; Naidoo, 2018). Knight (2011) highlights that the effect of globalisation on HE differs depending on various factors including the country's economy, history, culture, and traditions. Carnoy (2005) argues that the implications of globalisation in HE are twofold: 1) globalisation increases the demand for education; 2) globalisation produces a reaction. Meanwhile, internationalisation of HE is the process of HEIs' response to globalisation (Altbach, 2004; Maringe & Foskett, 2019). Maringe and Foskett (2019) argue that globalisation and internationalisation of HE are two sides of the same coin, which simultaneously act and mutually shape and reinforce each other. Thus, globalisation and internationalisation in HE are actually two different processes, although closely interconnected. Globalisation provides an incentive for the internationalisation of HEIs around the world, and as universities step up their internationalisation efforts, the pace and scale of globalisation is accelerated. Internationalisation of HE is especially evident in the recruitment of international students and the establishment of Western university campuses (Ge, 2022; Knight, 2011; Tight, 2022). GURs are one of the elements of internationalisation of HE (de Wit & Altbach, 2020; Lee & Stensaker, 2021). Moreover, GURs are seen as a political driver of internationalisation (Lee & Stensaker, 2021). Hazelkorn (2015) claims that globalisation and a gradual evolution towards a single world market have led to the growth of the role of GURs. She argues that in the context of globalisation, GURs play an important role in collecting standardised information about universities and comparing them. However, many authors emphasise that since HEIs of the USA and UK tend to occupy top places in many GURs, internationalisation and

globalisation can cause the spread of the Western university model and this development can lead to global convergence (Ordorika & Lloyd, 2015; Shahjahan et al., 2017).

Globalisation and internationalisation have further exacerbated competition between countries and posited new challenges such as the increasing number of students (de Wit & Altbach, 2021; Ge, 2022; Mok, 2016; Tight, 2022). With the intensification of global competition, elite educational systems have become unable to cope with the growing demand of countries for professionals (Marginson, 2017a; Trow, 2010). Thus, the expansion of the global interconnection and the global HE market has caused a shift from elite education to massification of HE (de Wit & Altbach, 2020; Mok & Jiang, 2018).

Massification of higher education

Massification has boosted access to HE around the world, primarily benefiting groups from lower socio-economic backgrounds who have traditionally been excluded from elite HE systems (Akalu, 2016; Trow, 2010). According to Trow (2008, 2010), the massification of HE is manifested in the growing number of students and the diversification of HEIs. Meanwhile, Evans et al., (2021) argue that the distinction between elite and mass HE lies not only in the increase in student numbers and the diversification of HEIs but also in the change in the conceptualisation and the purpose of HE. Mok & Jiang (2018) consider the massification of HE as a response of HE to market challenges. However, the effects of massification on HE have been widely criticised, including its impact on graduate employment, quality of HE, and equity (Mok, 2016; Tight, 2019). Widening participation and increasing number of graduates put pressure on the labour market of many countries (Evans et al., 2021; Mok & Jiang, 2018). Some authors (Dias, 2015; Lu et al., 2021) argue that an increase in student numbers does not always mean greater equity of access to HE and the privileged groups still maintain an advantage in many countries. In the meantime, the findings of the study by Giannakis and Bullivant (2016) indicate that the increase in student numbers has led to the deterioration of the quality of HE. Thus, massification to some extent lowered the standards of HE, which actualised the role of GURs as an external assessment of HEIs.

Marginson and van der Wende (2007) point out that the massification of HE is one of the main reasons lying behind the increasing influence of GURs. Thus, such an increase in the number of universities and students around the world, inevitably led to a competitive environment

and the assessment of the activities of universities became urgent. Meanwhile, de Wit and Altbach (2021) point out that massification has led to marketisation, privatisation, and the rise of private higher education.

Marketisation and privatisation of higher education

As a result of the rapid expansion of HE, nation-states are faced with public funding challenges, leading to increased marketisation and privatisation of HE (Alajoutsijärvi et al., 2021; Croucher & Lacy, 2020; Komljenovic & Robertson, 2016). Ideological origins of marketisation and privatisation are rooted in the ideas of neoliberalism and New Public Management (NPM) (Bleiklie, 2020; McClure et al., 2020; Mintz, 2021). Neoliberalism as an ideology and policy model advocates the idea of free-market regulation of the HE sector with minimal government interference while NPM principles emphasise the importance of management techniques and practices borrowed from the private sector in improving the quality and efficiency of the public sector (Bleiklie, 2020; G. Croucher & Lacy, 2020; Dougherty & Natow, 2020). Neoliberal policies have focused on the improvement of the effectiveness of public organisations in the HE sector and are associated with goals such as improving student outcomes and research performance (Chang, 2021; Dougherty & Natow, 2020). These neoliberal policies have enhanced the role of marketisation in HE.

Marketisation of HE is manifested in changing the strategies of universities and increasingly adopting the practice of business enterprises and the student-as-consumer approach including the introduction of tuition fees (Bunce et al., 2017). This has led to the development of entrepreneurial and managerial universities. To survive in a highly competitive environment, universities have to focus on marketisation, including collaboration with industry, and are becoming customer focused. As a result, universities have begun to pay more attention to results, performance, and effectiveness, which once again prioritised the role of GURs. Tomlinson and Watermeyer (2020) argue that the massification and marketisation of HE, coupled with NPM tools, have radically changed institutional dynamics and "once HE expands and the state reduces its fiscal commitment and applies neoliberal governance principles, a set of pervasive measurement technologies are established to enhance institutions' market responsiveness and competitive status, nationally and globally" (p.2). In this sense, the evaluation of the effectiveness of HEIs has become an important task

not only for the universities themselves but also for a wide range of stakeholders including government, employers, students, and their parents. Thus, NPM and the new managerialism in HE have increased the demand for the quality and efficiency of education provision and this has led to the spread of performance culture in HE including the growing role of GURs.

COVID-19 and higher education

Due to the imposed restrictions and lockdowns related to the Covid-19 pandemic, universities around the world have switched from face-to-face teaching to online teaching and it was an unprecedented change in HE (de Boer, 2021). Most importantly, universities were forced to adapt to such changes in a short period of time. That said, the pandemic situation showed the importance of technologies in providing education. Studies from the different parts of the world immediately launched to examine the impact of the pandemic and online teaching on the HE sector. Some studies indicate that academics have perceived the move to online teaching because of COVID-19 mainly positively (Watermeyer et al., 2021) while others argue that various problems associated with online teaching, such as low learning efficiency, the lack of discussions, and communal experience inhibit effective learning (Eringfeld, 2021). Ross (2020, p.1355) states that "the pandemic is functioning as a circuit breaker in the cyclical logic that drives universities' international education business model: money from foreign students bankrolls research, which raises universities' standings in the global rankings, which in turn attracts more foreign students". Meanwhile, the QS survey data about the impact of the coronavirus on global HE revealed that 46% of prospective international students stated that coronavirus affected their plans to study abroad (Marinoni & van't Land, 2020). Stack (2021, p.127) argues that "without structural changes to higher education, COVID-19 will amplify an already inequitable distribution of resources and lessen the ability of universities to play a responsible role in expanding public debate and increasing understanding of critical issues facing the planet".

The above global trends in HE have increased the role and significance of GURs in comparative assessment of HEIs. In particular, Altbach (2012) argues that as a result of massification, competition, and commercialisation of HE, GURs have become a permanent feature of HE. Since the ever-growing education market needed external evaluation of universities, GURs

were successfully woven into the HE sector. The next section will examine the concept of GURs, their role in HE, and critiques of GURs.

Global university rankings: overview

Global university rankings and their methodology

In the context of globalisation and internationalisation of HE, GURs are increasingly becoming an important external evaluation tool for HEIs. The results of GURs often affect the interests of various stakeholders, including the state, universities, and students (Bastedo & Bowman, 2011; Buckner, 2020; Hazelkorn, 2015; Marope et al., 2013). In this regard, Stack (2016, p.31) questions "how did predominately media-generated rankings become such a ubiquitous marker of success, academic quality and legitimacy?". GURs have not only turned into an integral part of global HE, but they are also becoming more influential in HE policy and the practice of universities (Fowles et al., 2016; Hazelkorn, 2018).

Some authors highlight the profound effect of globalisation and internationalisation of HE on the emergence and growing impact of GURs (Altbach, 2004; de Wit & Altbach, 2021; Rust & Kim, 2016; Tierney & Lanford, 2016). Other authors consider GURs as the geopolitical competition of HEIs and nation states (Brankovic et al., 2018; Hazelkorn, 2018; Moscovitz & Sabzalieva, 2023; Shahjahan & Morgan, 2016; Stack, 2020). Robinson-Garcia et al. (2019) argue that not only has globalisation increased competition amongst HEIs worldwide actualised GURs, but also the development of NPM in HE created the demand for quantitative tools and indicators. Enders (2014, p.22) argues that "the simplistic beauty of ranking systems supports their seductive and coercive power, makes them travel easily and lends itself to uses in multiple contexts of the international field". In some cases, the obsession with GURs is explained by the fact that they satisfy societal demands for comparative information about universities (Ordorika & Lloyd, 2015; Usher & Savino, 2006). Meanwhile, Federkeil (2008) states that GURs are not just about the comparison of HEIs, they serve the role of external assessment of educational quality. According to Hazelkorn and Liu (2018), the drive to enhance accountability and transparency in HE has fostered the growth of GURs. But what all the authors agree on is that GURs are not just here to stay, they have long term implications for HE across the globe.

In 1983, the U.S. News and World Report began publishing annual national rankings of America's Best Colleges. Meanwhile, the first global university ranking – Academic Ranking of World Universities (ARWU) was published in 2003 by the Institute of Higher Education at Shanghai Jiao Tong University, becoming the object of close attention not only of HEIs but also of governments of different countries (Brankovic et al., 2018; Gadd et al., 2021; Hazelkorn, 2018).

GURs differ in their scope, methodological basis, indicators and data sources. For example, six methodological indicators of the ARWU are based on four criteria – quality of education, quality of faculty, research output and per capita performance. Quality of education is assessed based on the following indicator: Alumni a Nobel laureates & Fields Medalists – 10%; quality of faculty comprises of two indicators: Staff as Nobel Laureates & Fields Medalists – 20%; Highly cited researchers in 21 broad subject categories – 20%; research output is assessed based on papers published in Nature and Science – 20%; and papers indexed in Science Citation Index-expanded and Social Science Citation Index – 20%; and per capita performance is assessed based on per capita academic performance of an institution – 10% (Figure 1). Since the indicators of this ranking system mainly measure the achievements of the university in terms of highly cited researchers, publications in specialised journals and receiving prestigious awards and medals by alumni and academic staff, the ARWU is mainly considered as research-focused ranking (Downing & Ganotice, 2016; Kaiser et al., 2022; Shin & Shin, 2020)
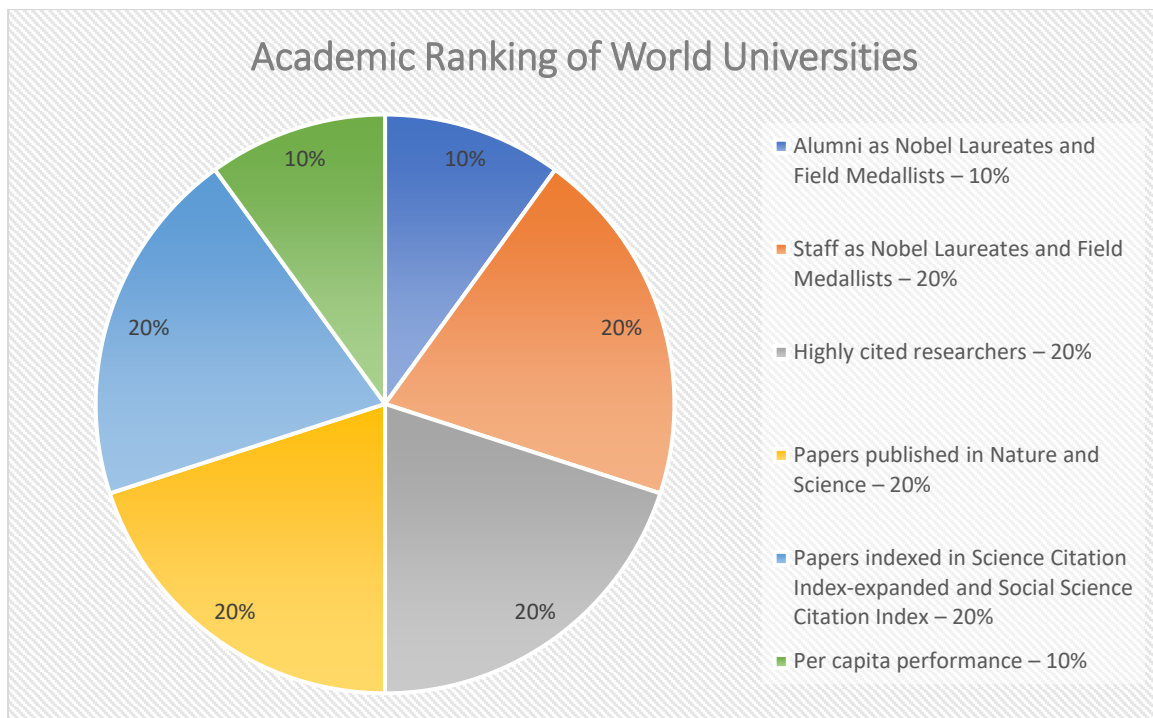
Figure 1. The ARWU indicators Source: (adapted from the ARWU website - http://www.shanghairanking.com).

In the meantime, the QS WUR is well-known as a reputation-oriented ranking as 50% of the methodological indicators of this ranking evaluates reputation (Downing & Ganotice, 2016; Saisana & d'Hombres, 2008). The QS WUR assesses not only the quality of education and research but also employer reputation (graduate employability), internationalisation, and other administrative characteristics. Figure 2 illustrates the indicators of the QS WUR methodology: academic peer review – 40%; faculty/student ratio – 20%; citations per faculty – 20%; employer reputation – 10%; international student ratio – 5%; international staff ratio – 5%. According to the QS WUR, "the Employer Reputation component is unique amongst current international evaluations in taking into consideration the important component of employability. The majority of undergraduate students leave university in search of employment after their first degree, making the reputation of their university amongst employers a crucial consideration" (QS WUR, 2022).

Data sources of the QS WUR vary depending on the indicator: academic peer review and employer reputation are determined through the QS Academic Reputation Survey while citations and indicators about staff and students are compiled from self-reported data from universities and bibliometric data from Elsevier's Scopus (Moed, 2017). Since 50% of the QS

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WUR methodology comprises reputation survey, many authors criticise the reliance of the QS WUR on reputational results because of the subjective factor (Barron, 2022; Huang, 2012; Redden, 2013). In response to such criticism, in 2013 the QS stated that the survey is not easy to manipulate as this indicator consists of the following procedures to ensure its validity: strict policy for participation, inability to select one's own institution, sign-up screening processes, sophisticated anomaly detection algorithms, market-leading sample size, academic integrity, international emphasis, three-year sampling, watch list and QS Global Academic Advisory Board (Sowter, 2013).

QS World University Rankings

- Academic peer review – 40%
- Faculty/student ratio – 20%
- Citations per faculty – 20%
- Employer reputation – 10%
- International student ratio – 5%
- International staff ratio – 5%
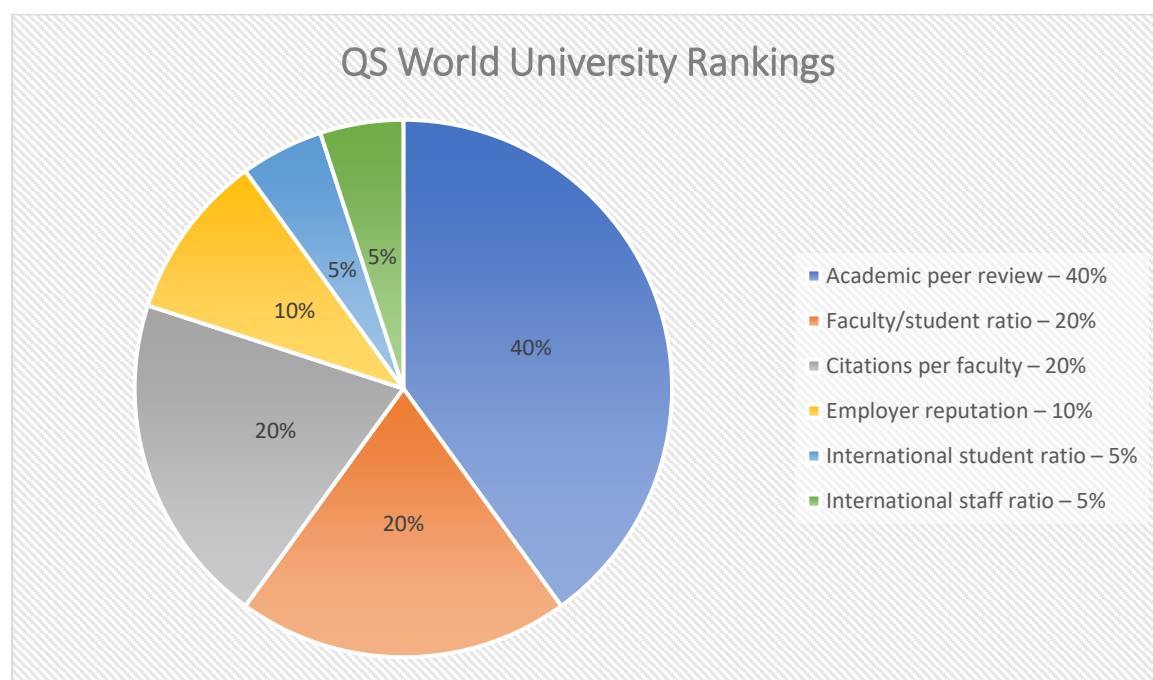
Figure 2. The QS WUR indicators Source: (adapted from the QS WUR website – https://www.topuniversities.com/qs-world-university-rankings/methodology).

THE WUR evaluates universities according to five criteria: teaching, research, citations, international outlook, and industry outcome (Figure 3). Teaching (30%) is assessed based on the learning environment which includes Reputation survey – 15%; staff-to-student ratio – 4.5%, doctorate-to-bachelor's ratio – 2.25%, doctorates-awarded-to-academic-staff ratio – 6%; institutional income – 2.25%. Research (30%) is evaluated as follows: Reputation survey – 18%; research income – 6%; research productivity – 6%. Thus, 15% of teaching score and 18% of research score is evaluated based on the Academic reputation survey that overall comprises 33% of the university's score according to the THE WUR methodology. Citations (30%) are assessed based on the Elsevier database. As can be seen, this ranking system also

places great value on research performance of HEIs. However, compared to the QS and ARWU, THE WUR emphasises the evaluation of education and teaching significantly (30%). International outlook comprises 7.5% of the THE methodology, which is assessed as follows: proportion of international students – 2.5%; proportion of international staff – 2.5%; international collaboration – 2.5%. In addition, the methodology of the THE WUR includes non-education and non-research components or the third mission of HEIs – industry income. Thus, it attempts to capture all different activities of HEIs (Altbach, 2012). Industry income (2.5%) assesses knowledge-transfer activity by examining an institution's research revenue from industry.
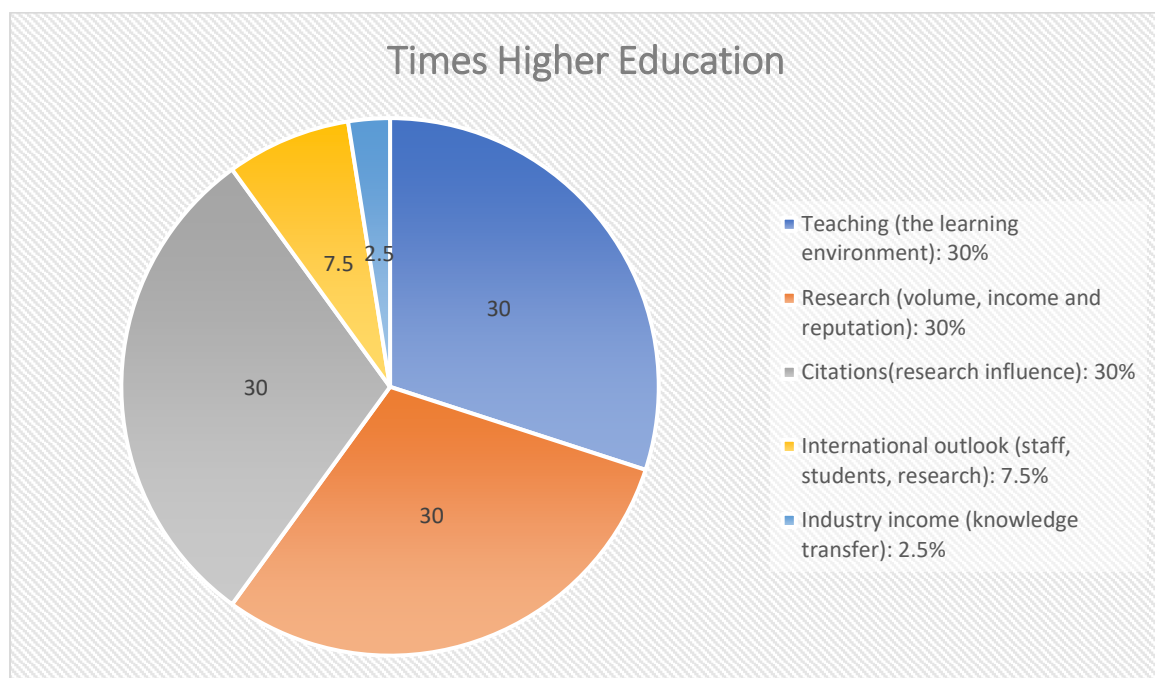
Figure 3. The Times Higher Education indicators Source: (adapted from the THE WUR website – https://www.timeshighereducation.com).

Overall, the results of the three major rankings differ year by year. However, the top-10 universities in these rankings mainly remain similar.

The role of global university rankings in higher education

Although GURs are exposed to ongoing criticisms, there are a number of positive changes in HE that have been brought about by them (Hazelkorn, 2015; Marope et al., 2013). According to Lo (2011), GURs can be used in three ways: 1) as a governing tool; 2) as a mechanism of agenda setting in global higher education; 3) as a zoning technology intensifying cross border networks and integration in higher education. Several authors (Locke, 2014; Marope et al., 2013) argue that the power of GURs is manifested in providing an organised and integrated way of evaluating performance of a large number of HEIs worldwide. Additionally, the practical significance of rankings is that they provide a consistent collection of data on HEIs and contribute to the development of more informed higher education policy (Lim & Williams Øerberg, 2017; Rauhvargers, 2014). As a result, GURs have facilitated the dissemination of the discourse of HE at an international level (Enders, 2014; Marope et al., 2013; Naidoo, 2018).

Another important benefit of GURs expressed in the fact that they simultaneously satisfy the interests of different groups of stakeholders: governments are interested in reliable information about the performance of their HEIs and tend to use ranking results as a policy instrument in reforming the HE system and performance-based regulation of HE; HEIs strive to assess their own competitiveness by comparing themselves to other institutions (benchmark purposes); institutional leaders rely on ranking results in strategic decision-making and management; employers use ranking results as an important source of information in recruiting talented graduates; students seek to compare different HEIs and choose the "best" one (Fisher, 2022; Hazelkorn, 2015; Robertson, 2022; Salmi, 2009; Usher & Savino, 2006). For example, the findings of recent studies (Bowman & Bastedo, 2009; Broecke, 2015; McManus et al., 2017) indicate that high-ability students are most responsive to the ranking position of the universities and even a minor shift in an institution's position can cause significant changes in student numbers. At the same time, the results of the cross-national survey by Hazelkorn (2015) show that 63% of administrators are guided by GURs in strategic decision-making and management whilst the majority of respondents view GURs as crucial in achieving global elite status. This survey's results are in line with the findings of a longitudinal study of four Australian universities by Dowsett (2020). Findings of this study indicate that specific changes in strategic decision-making towards the indicators of rankings

contributed to improving the ranking position of the universities. The study was carried out over a fifteen-year period, which allowed the author to identify changes in the interrelationships of GURs and strategic planning over that time. The author used the ARWU as an example by highlighting its indicators' constancy. In this regard, Hazelkorn and Gibson (2016) state that the methodology of ARWU is fairly stable compared to the QS WUR and THE WUR, which made several structural changes (for example, shifting weightings) in their methodology and changes in the source data (THE WUR changed its source data from Web of Science to Scopus in 2015).

The next benefit of GURs is that they are used as a comparative tool to measure the academic quality of HEIs on a global scale. As Hazelkorn (2017, p. 6) highlights, "despite ongoing criticism about rankings, and the appropriateness or otherwise of the methodology, rankings are now widely perceived and used as the international measure of quality". The findings of studies in different countries show that disappointment with an institutional position in GURs encourages HEIs to change their strategic goals and policy, to continuously improve their research and teaching performance, to adopt new methods of teaching and learning, and to increase expenditures (Espeland & Sauder, 2016; Gowen & Hengesteg, 2021; Hazelkorn, 2015; Kim, 2018). In addition, the ranking results are a source of information that can be used to analyse university's activities, determine the further direction of development, optimise internal capabilities, and develop strategy for increasing competitiveness (Dowsett, 2020; Erkkilä & Piironen, 2020). In the case of developing countries, where external quality assurance systems have different flaws in the accreditation and assessment process such as frequent change of the assessment criteria, GURs can serve as a proxy to measure quality of HEIs (Hazelkorn, 2015; Ordorika & Lloyd, 2015). Several international reports also stress the positive sides of GURs. For example, the European University Association report about the impact of GURs highlights the rankings' positive influence on HEIs including understanding the importance of HE for the competitiveness of countries at the global level, increased emphasis on accountability and a commitment to better management practices (Rauhvargers, 2011). However, since their inception, GURs have been the subject of much criticism. The next subsection will analyse the critiques of GURs.

Critiques of global university rankings

Given the popularity and increasing influence of GURs, it is essential that they should be transparent and statistically reliable. However, many authors criticise their methodological flaws and quantitative orientation, bias toward the English language, favouring STEM over humanities, and other limitations of GURs (Altbach, 2012; Baltaru et al., 2022; Li & Xue, 2021; Pusser & Marginson, 2013).

Methodological limitations. The ever-growing popularity and pervasiveness of GURs around the world have sparked debates about the validity of their methodologies (Gadd et al., 2021; Goglio, 2016; Marope et al., 2013; Paruolo et al., 2013; Selten et al., 2020). Goglio (2016) highlights that methodological problems in rankings arise when the characteristic of indicators, for example, the presence of Nobel prizes in ARWU, creates a certain bias that affects the final result – ranking position. Gadd et al. (2021) compared six GURs – ARWU, CWTS Leiden, QS WUR, THE WUR, U-Multirank, and US News & World Best Global Universities with regards to the criteria that fell into four categories: good governance, transparency, measure what matters, rigour, and found that CWTS Leiden most closely met the criteria while prestigious GURs such as THE WUR and US News rankings scored poorly across all the criteria. Similarly, Selten et al. (2020) analysed the methodological indicators of three major GURs – the ARWU, QS WUR and THE WUR and found that although indicators of these rankings measure different areas of institutional life, they mainly concentrate on two factors: institution's reputation and its research performance.

One of the most criticised methodological issues of rankings in the literature is related to reputational surveys in GURs (Bowman & Bastedo, 2011; Hazelkorn, 2015). Various limitations and biases, such as the "anchoring effect" and the "halo effect" can affect the accuracy of surveys negatively due to the human factor and subjectivity (Bowman & Bastedo, 2011; Safón & Docampo, 2020). According to Bowman and Bastedo (2011), the anchoring effect of peer review is a cognitive bias when a person's decisions are influenced by a specific reference point or anchor, in the case of rankings, the top universities in the rankings. In other words, when participants are asked to rate universities, they perceive the top prestigious universities in GURs as a starting value or baseline. The authors examined the data from the first three years of the THE WUR and found that the previous years' rankings had a significant impact on peer review results. Similarly, the halo effect occurs when overall preconceptions

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affect the outcome of an assessment (Marginson, 2014; Safón & Docampo, 2020). Thus, the respondents tend to rate well known and prestigious universities more highly. For example, in one study the respondents ranked the Law school of the Princeton University very high in the ranking of the best law schools, despite the fact that Princeton University did not have a law school (Frank & Cook, 2010). Thus, in this case, the participants of the study were influenced by the prestige and overall high position of Princeton University in different GURs. In this regard, Blackmore (2018, p. 237) argues that "as long as global rankings rely partly on academic opinion and while they favour research-related activities over others, they will generate prestige for those who succeed in them".

There are also the critiques of the citation metrics which are considered as one of the hard indicators of GURs. Many authors stress that comparing publication numbers and citations across various disciplines is misleading as disciplines have own peculiarities which are overlooked in citation metrics (Aksnes et al., 2019; Dowling, 2014; H. Li & Yin, 2022). Dowling (2014) argues that citations as a measure of scholarly output have the major drawback of not providing information regarding the inputs or the process of research.

Another concern relates to the assessment of the quality of education by GURs (Federkeil, 2008; Marope et al., 2013). For example, in the ARWU the criterion "Quality of education" (10%) is measured in accordance with the number of alumni as winners of Nobel prizes and Fields medals. Undoubtedly, such a criterion is useful for assessing the quality of scientific research, but not for the quality of education. Furthermore, this indicator favours hard sciences over the humanities (Li & Xue, 2021). Besides, guided by such criteria, universities can apply manifold techniques to improve the ranking position, in this case through the recruitment of Nobel laureates, which is a kind of gaming technique. In this regard, Leiber (2017, p.47) notes, "rankings alone do not give a consistently fair assessment of performance; they are often not open for feedback and dialogue; because of their methodological weaknesses and possible misinterpretations, it is at least controversial whether they have a trust-building effect". Additionally, GURs mainly assess the quality of teaching and learning based on the faculty and student ratio. Nevertheless, various studies suggest that the quality of teaching cannot be reduced to mere numerical data, and there is no observable correlation between the faculty-student ratio and the quality of teaching.

Gaming techniques. In some cases, universities tend to use different gaming strategies in the pursuit of improving performance in GURs (Dowling, 2014; W. N. Espeland & Sauder, 2007; Johnes, 2018; Oravec, 2020; Sauder & Espeland, 2009). Examples of gaming strategies include hiring Nobel laureates, misrepresenting institutional data, providing more scholarships for international students, pushing academic staff to publish in top international journals as a response to GURs' indicators (Gowen & Hengesteg, 2021; Jin & Kim, 2021; Oravec, 2020; Shin et al., 2011). Gowen and Hengesteg (2021) presented an example of the Northeastern University and its President Richard Freeland, when a regional teaching-oriented university in the USA became a national research university. The authors argue that this was facilitated by Freeland's actions aimed at marketisation mechanisms and responding to university rankings' indicators. The main problem with gaming strategies is that in many cases it is difficult to distinguish some gaming techniques from strategic responses (Espeland & Sauder, 2007; Huisman & Stensaker, 2022).

Espeland and Sauder (2007) consider gaming strategies as one of the explicit forms of reactivity to rankings. They note that participants in their case studies described various gaming strategies, including misrepresenting or inaccurate reporting of institutional data. The authors stress the negative impact of such strategies on universities. In fact, the cases of misreporting of data to ranking agencies are common. For example, in 2018, it was found that 8 colleges gave incorrect data for the U.S. News & World Report "Best Colleges" rankings (Jaschik, 2018). Misrepresented institutional data to ranking agencies may include admissions statistics, test scores, graduation rates, faculty student ratio numbers (Larmett & Garrity, 2019).

Favouring research over teaching. Another major issue related to the methodology of GURs is that they are mainly focused on the quality of research (Locke, 2014; Selten et al., 2020; Williams & de Rassenfosse, 2016). In fact, availability of abundant comparable data such as bibliometric and citation data, number of Nobel laureates makes research indicators attractive in GURs (Locke, 2014; Marginson, 2014; Usher & Savino, 2006; R. Williams & de Rassenfosse, 2016). Shore and Wright (2020) explain this trend by the lack of reliable metrics to assess the quality of teaching. Enders (2014) argues that rankings assess those qualities of universities that can be quantified and de-value qualities that cannot be expressed in numbers. In this regard, van der Wende and Don (2009) argue that GURs should reflect the

diversity within HE systems. Meanwhile, GURs that pretend to assess the quality of teaching mainly rely on staff-student ratios as a proxy for quality of teaching (Buckner & Zhang, 2021; Fassett & McCormick, 2021). In a study by Blackmore (2016), leaders of teaching-led institutions in the UK expressed concern about their disadvantaged position in GURs that evaluate institutional achievements not related to their mission. For example, 60% of the weighting of the THE methodology assesses research performance (30% for research and 30% for citations). As a result, the missions and strategic goals of the majority of HEIs are mainly concentrated on research performance which negatively affects the quality of teaching (Lim, 2018; Shattock, 2017). Such an emphasis on certain indicators of GURs can inevitably lead to the spread of isomorphic tendencies in HE, when HEIs tend to apply similar practices and become more alike which can put at risk the institutional diversity in HE (Cantwell & Kauppinen, 2014; Kehm, 2014; Locke, 2014).

Isomorphism and neglecting institutional diversity. Although GURs differ in their methodology, a set of research performance indicators weigh considerably in major GURs and as a result, they influence pervasively organisational behaviour of HEIs by disseminating the "ideal model" of a university (DiMaggio & Powell, 1983; Martins, 2005; Ordorika & Lloyd, 2015; Shin et al., 2011). Shin et al. (2011) state that "by codifying and ordering the practices and structures of elite organizations such as Harvard or Oxford, rankings produce a navigable roadmap for less-prestigious institutions to follow … and this quantification of relationships between institutions exacerbates and amplifies the mimetic tendencies already found in higher education". On the other hand, Stack (2021b) contends that the real impact of GURs on organisational behaviour is multidimensional and complicated in nature, going beyond isomorphic processes.

Overemphasis on research can negatively affect not only teaching but also the third mission of universities which embraces social engagement, entrepreneurial, and innovative activities (Dip, 2021; Hazelkorn, 2012; Williams & de Rassenfosse, 2016). Meanwhile, amongst popular GURs, only the THE WUR includes criteria, albeit to a lesser extent, to assess the third mission of universities. Given the universities' commitment to ranking indicators, it should come as no surprise that the findings of the study by Lee et al. (2020) show that highly ranked universities favour research over teaching and the third mission. Additionally, such obsession with GURs has further increased the hegemony of rankings as procedures of surveillance and

control and aggravated the already existing audit culture in the higher education sector (Shore & Wright, 2020).

Audit culture. GURs are considered as one of the reasons for the spread of audit culture in HE (Shore, 2008; Shore & Wright, 2020). According to Kallio et al. (2020), audit culture in HE is manifested through the use of GURs, research assessment exercises, teaching quality reviews, and performance measurement. Audit culture in HE implies a systematic evaluation of the activities of universities in core areas such as teaching and research and aims to enhance transparency and accountability, which is beneficial to the state but puts pressure on universities (Shore, 2008; Welch, 2016). As a result, academics struggle to find the optimal balance between teaching and research, and other obligations (Lai et al., 2014; Watermeyer, 2016b). Furthermore, the pressure to work under specific indicators of GURs could lead to fraudulent practices such as falsification of research data, plagiarism, and fictitious authorships (González-Calvo & Arias-Carballal, 2018). Shore and Wright (2020, p. 71) point out that GURs and strive for world class excellence "have been catalysts in recasting academics as atomised individuals operating in a competitive higher education market: a de-professionalised workforce of researchers and teachers whose work must be incentivised, monitored and measured by management".

Rankings business. Many authors stress that ranking companies that produce and publish GURs are mainly driven by commercial purposes which become a big business sector of global HE (Hazelkorn & Gibson, 2016; Jacqmin, 2021; Kehm, 2014; Shahjahan et al., 2020). Hazelkorn and Gibson (2016, p.3) argue that "…these three rankings (QS WUR, THE WUR, and ARWU) have propagated 66 separate rankings and subrankings: rankings by region, by faculty, by field, by subject, and so on. All which goes to show that rankings are not just newsworthy, but also big business". Shahjahan et al (2020, p.13) analysed the role of the QS WUR and THE WUR as commercial rankers and concluded that "constructing and perpetuating this ranking reality in global HE only serves these edu-businesses' ends". Marope et al. (2013) state that commercial motives of rankings companies can affect the rankings results. Jacqmin (2021) highlights that media outlets that publish GURs are largely financed by the advertising of HEIs that they rank, and it produces a conflict of interest since the author found that advertisement of HEI in the Times Higher Education magazine can improve institution's position in THE WUR up to 15 ranks. Similarly, Chirikov (2022) argues that consulting services provided by ranking

companies create conflicts of interest and particularly he found that 22 Russian universities that ranked in the QS WUR spent $2,857,880 on the QS consulting and advertising services over the past 8 years. This once again raises the question of the reliability of the GURs' results. Moreover, Dowsett (2020, p. 488) claims that it is alarming that ranking agencies such as the THE openly declare that they are "setting the agenda in higher education". It shows how GURs are embedded in HE policy discourse and how commercial rankings companies are becoming powerful actors of global HE. Thus, GURs can further intensify global competitiveness and put additional pressure on national HE systems.

There are also other criticisms of GURs, but the main point is that GURs measure a small fraction of HEIs worldwide as they include only around 1,000 HEIs out of more than 25,000 HEIs in the world (Hazelkorn, 2013; Millot, 2015). Besides, since countries vary by their political structures, economic conditions, cultural and educational traditions, it makes the international comparison of HEIs from different countries even more difficult. Moreover, GURs might not comprehensively capture the varied missions and goals of universities (Gadd, 2021; Goglio, 2016). Hazelkorn (2013) points out that almost all rankings are dominated by a group of about 25 universities, usually with medical schools and in English-speaking countries. As a result, as Kehm (2014, p.103) argues, "a university located in a non-English-speaking country without medicine will never be in the top league of any ranking, regardless of its excellence". These criticisms point to the restricted coverage and challenges in international comparisons as key limitations of GURs.

Marginson and van der Wende (2007) argue that the increasing policy significance of GURs requires a serious academic analysis of their construction. Fisher (2022) points out that reasonable ranking systems should be actionable and credible, possess qualities that take into account all aspects of HEIs including research and teaching, graduate and undergraduate. In response to different criticisms, ranking companies from year to year allocate huge resources to improve GURs (Enders, 2014; Holmes, 2016; Rauhvargers, 2013, 2014). For example, in 2010 the THE has made significant changes to its ranking methodology including new procedures for determining indicators, new criteria for inclusion in the ranking, and an indicator that measures innovations (Holmes, 2016). Similarly, in 2015 the QS changed its procedure to calculate citations (Hazelkorn & Gibson, 2016).

Overall, the literature on critiques of GURs highlights their various limitations. Nevertheless, GURs have become a powerful policy instrument at national and institutional levels. The next section will examine how nation-states and HEIs tend to respond to GURs.

The impact of global university rankings on higher education

While reputation can be earned in a number of different ways, GURs are increasingly becoming a forceful measure of international status (Stensaker et al., 2019; Tapper & Filippakou, 2009). This is one of the reasons why nation-states and HEIs pay special attention to GURs. Brankovic et al. (2018) argue that GURs influence global HE in three ways: "(a) by establishing a universal framework of comparison, global rankings urge universities to see themselves as actors in a global, rather than just in regional or national field; (b) by evaluating performances comparatively and quantitatively, they "scarcify" reputation; and (c) by regular publication, they transform stable status orders into dynamic competitive fields". Thus, both nation-states and individual HEIs are involved in this competition.

National responses to global university rankings

GURs have become the basis of numerous reforms in many countries that seek to modernise and change their HE system (Ahlers & Christmann-Budian, 2023; Do & Mai, 2022; Erkkilä, 2014; Erkkilä & Piironen, 2020; Salmi, 2009; Stack, 2021b). Governments rely on GURs to promote universities in the global HE market, to increase their competitiveness and ensure recognition of the national HE system abroad. Shattock (2017, p.6) argues that "this competition has intensified as research outcomes have been linked to governments' innovation strategies and it is not surprising that this has manifested itself in media-driven claims that particular institutions are members of the top 50, 25 or 10 universities globally". Vivid examples of national initiatives to establish WCUs in response to GURs include Excellence Initiative in Germany, Initiatives D'Excellence in France, 985 Project and Double First-Class strategy in China, Sustained Progress and Rise of Universities in Taiwan Project (Deem et al., 2008; Guo et al., 2023; Han et al., 2023; Salmi, 2016; L. Yang et al., 2021). As a result of such initiatives, universities in some countries significantly improved their ranking positions. For example, Salmi (2016) argues that the five universities that have considerably improved ranking positions in the ARWU ranking over the past decade – Shanghai Jiao Tao

University and Fudan University in China, King Saud University in Saudi Arabia, the University of Aix-Marseille in France, and the Technion-Israel Institute of Technology – have all received investments and funding within national excellence initiatives. In this regard, Munch (2014) argues that all these national investments to create WCUs may enable to enhance the ranking position of universities, but it not always means the development of academically strong universities which once again arises questions on the role of GURs as the quality evaluation tools.

The actual effects of GURs on national HE systems vary depending on different factors including the size of the country, socio-economical characteristics, public values, institutional context and traditions (Erkkilä, 2014; Gornitzka, 2013; Hazelkorn, 205). Gornitzka (2013) identifies three ways of national policy responses to GURs: channelling, when countries directly use GURs metrics to build their policies; buffering, when national policies are isolated from the influence of GURs; and filtering, when countries select only some rankings prescriptions. Asian countries such as China, Japan and South Korea, where research universities are seen as the driving force behind economic development, can be examples of countries channelling the metrics of the GURs to their policies (Do & Mai, 2022; Kang & Mok, 2023; Lee et al., 2020; Li & Xue, 2022). Meanwhile, the Nordic countries are an example of nation-states that filter the policy prescriptions of GURs (Elken et al., 2016; Erkkilä, 2014; Kohvakka & Nevala, 2023). Hazelkorn and Ryan (2015) compared the impact of GURs on HE policy of Germany, France and UK, and concluded that GURs had a modest impact on the HE policy of the UK compared to Germany and France. The authors explain that the universities of the UK are already highly ranked in various GURs, while France and Germany have been under pressure to improve their universities' performance in GURs and step up to change their HE policy. That said, the authors believe that UK should pay more attention to GURs given the better presentation of the universities of the USA in GURs and the rise of universities of Asia. The authors conclude that GURs not only changed the view about the status and reputation of European universities but also led to significant changes in HE policy towards the competitiveness of universities. Similarly, Mai (2022) compared national strategies in the pursuit of excellence in the GURs in Germany, France and China, where the centralised state governance model is prevalent, and found that despite the cultural and national differences,

these countries mainly focused on financial incentives and funding to improve the research output of universities.

Most authors emphasise the role of WCU in fostering the competitiveness of national HE systems (Altbach & Salmi, 2011; Salmi, 2009; Shattock, 2017). Shattock (2017) identified a number of features that are peculiar to WCU: institutional longevity; location; resources; academic talent; the existence of a liberal political climate; and favourable governance. According to Altbach and Salmi (2011), the fundamental characteristics of WCUs include research excellence, international engagement, and positioning in GURs. Several studies highlight the direct relationship between ranking position and world class status (Allen, 2021b; Lee et al., 2020; Yang et al., 2021). For example, (Allen, 2021b) analysed the implications of GURs on the creation of WCUs in China. In total, 48 interviewees including academics and administrators from Chinese universities participated in this study. The key finding indicates that the world class status of the university directly stems from its ranking position in GURs. The author concludes that as a result of focusing on GURs indicators, Chinese universities such as Tsinghua university have become more competitive and improved its position. Similarly, Lee et al. (2020) argue that the drive to create WCUs and targeted funding for STEM-focused HEIs in Asian countries have contributed to the improvement of university positions in GURs. Thus, in the context of China GURs play a major role in defining and building WCUs.

However, there are also some counterarguments against pursuit of excellence in the GURs. Shattock (2017) analysed policy implications of striving for "world class" status and concluded that the widespread concept of WCU proliferated by GURs can distort HE policy and lead to setting unachievable goals for HE policy and institutions. Similarly, Ordorika and Lloyd (2015) argue that countries aiming to place their universities in the top 100 in the GURs should consider the long-term economic and social implications of such decisions. Besides, it is important to understand that any new changes in HE policy will not lead to an immediate improvement in universities performance (Hazelkorn & Ryan, 2015; Stack, 2020).

All above-mentioned studies on the impact of GURs were conducted in the context of developed countries. Given the huge difference in socio-economic and political characteristics between developing and developed countries, the examination of this topic in the context of developing countries would give a different picture. In terms of developing contexts, few

studies examined the impact of GURs in developing countries such as Malaysia, Russia, and Thailand (Mäkinen, 2021; Rhein & Nanni, 2021). Compared to these countries, Kazakhstan presents an interesting case as the under-researched and under-represented central Asian country in HE studies (Stack, 2021b). Moreover, in contrast with other central Asian countries, Kazakhstan is more committed to advancing research, as evidenced by its provision of funding and the volume of articles published in international peer-reviewed journals (Jonbekova, 2020; Ovezmyradov, 2023). Thus, this study aims to fill the gap in the literature by examining the perceptions and experiences of academic staff and senior management on the impact of GURs in Kazakhstan as one of the developing economies.

To conclude, many countries, both developed and developing, recognise the role of WCUs in the economic competitiveness (Li & Eryong, 2020; Yang et al., 2021). It further enhanced the role of GURs, as they serve as a main tool in defining the WCU status and success in such GURs is a decisive factor in the recognition of a university as a world class. Next section will analyse the institutional responses to GURs.

Institutional responses to global university rankings

Although the impact of GURs is perceived differently in various national contexts, they have penetrated the HE system of almost every country (Bernasconi & Knobel, 2021; Buckner, 2020; Erkkilä, 2014; Sadlak, 2020; Wilbers & Brankovic, 2021). Wilbers and Brankovic (2021) argue that legitimacy of GURs is rooted in a specific understanding of organizational performance. Furthermore, Brankovic et al. (2018) highlight that as GURs become institutionalised, shift into a widely shared belief that improvement is only possible in relation to the performance of other institutions becomes prevalent. As a result of the influence of GURs, many universities actively use rankings' indicators and set goals to improve their position in various GURs, using different strategies to achieve this goal. According to O'Meara (2007), universities seeking to improve their ranking position are called "strivers." "Striver universities" employ strategies including changing institutional culture, a focus on the research performance, guided by methodological indicators of GURs.

Universities are eager to improve their ranking positions as they have an important influence on reputation, admissions and finances (Bastedo & Bowman, 2011; Buckner, 2020; Hazelkorn, 2015). Bastedo and Bowman (2011) argue that behind the vigilant interest in rankings and

striving to ameliorate the ranking position lies universities' dependence on external resources. Leiber (2017) found that in many cases external stakeholders such as funders and international cooperation partners require the positioning of the university in most prestigious rankings – ARWU, QS WUR and THE WUR. Enders (2014) highlights that it is difficult to resist the influence of rankings since the very logic of rankings is borrowed from the academic field and is based on criteria such as peer review and citations.

Under the influence of GURs, institutional strategies and behaviour has changed considerably (Ahlers & Christmann-Budian, 2023; Bonaccorsi et al., 2021; Gnolek et al., 2014; Locke, 2014; O'Connell, 2015). To enhance their position in GURs, universities employ various strategic behaviours, including focus on publishing articles, "buying" research-active scholars who can contribute to the research output of the university and increasing financial resources (Jin & Kim, 2021; Shin et al., 2011). Thus, even faculty hiring and promotion policies have been influenced by GURs, where bibliometric indices and the number of publications in top journals play a key role (Boyce & Aguilera, 2021; Demetrescu et al., 2020; Warren, 2019; Williams et al., 2020). However, universities tend to respond to GURs differently depending on various factors (Bastedo & Bowman, 2011; Hazelkorn, 2015). Bastedo and Bowman (2011) explain varying responses of HEIs to rankings from the perspectives of two theories: resource dependence theory and institutional theory. They argue that GURs, as a form of external evaluation, have a financial impact on universities and in response to this assessment, universities use different strategies.

A number of empirical studies in different countries examined the impact of GURs on HEIs. For example, Hazelkorn et al. (2014) surveyed 171 institutional leaders from 39 countries and found that 87% of the respondents monitor their university's position on different GURs and 61% of institutional leaders use rankings in setting university strategies and goals. Another cross-national mixed-methods study by Hazelkorn (2015) further confirms the growing influence of GURs. The author compared institutional responses to GURs in Germany, Australia and Japan. Findings indicate that the majority of respondents used GURs in strategic decision making, in establishing partnerships with other institutions, in defining improvements in research and teaching, and in faculty recruitment which shows how rankings are interwoven within different activities of HEIs. Similarly, Adam (2023) analysed the influence of GURs on Canadian universities and revealed that GURs exert a substantial

influence on the strategic development, legitimacy management, and revenue-generating efforts of universities. The findings of the study by Locke (2014) reveal six main ways in which HEIs in England react to university rankings: 1) strategic positioning and decision-making; 2) redefining activities and altering perceptions; 3) evolving responses; 4) affective responses; 5) self-management; and 6) degrees of control: resisting, managing, exploiting and 'gaming' the rankings. Locke (2014) argues that the institutional response to the rankings primarily depends on the position of the university in the GURs. Thus, different types of universities show different responses. The author argues that universities have fallen into the rankings trap as they work hard to improve their positions by using various strategies but mainly focusing on research.

Sauder and Espeland (2007, 2009) examined organisational responses to GURs by conducting case studies of US law schools. 140 in-depth semi-structured interviews with academics and administrators show that GURs have become an unavoidable pressure for law schools. The authors conclude that law schools respond to rankings differently, and their response changes over time. The findings show that law school administrators have focused on redistribution of resources to improve school performance in two ways: 1) by increasing the marketing expenditures to improve their reputation; 2) by increasing the number of undergraduate scholarships to improve the statistics.

Following a study of the strategic plans of 78 universities with different ranking positions in 33 countries, Stensaker et al. (2019) concluded that rankings reshape strategic decision-making of HEIs significantly. Their analysis shows that top-ranked universities highlight their high positions by stressing the excellence in research while middle ranked universities set an improved ranking position as a strategic aim. In doing so, they concentrated on increasing the number of international students and staff, English medium programmes, publications, and developing international partnerships.

To sum up, the impact of GURs on HE is multidimensional, ranging from an institutional level to national policies. GURs have changed the very nature and the functioning of universities, and they have to operate under GURs as a form of transnational policy (Hazelkorn, 2017; Kehm, 2014; Stack, 2021b). Consequently, HEIs have to respond to GURs by employing different strategies. As Hallinger (2014) rightly argues:

> Pressure to perform on the world university rankings is carrying universities towards goals that may threaten long-term capacity development and societal contribution of many of the region's universities. Yet, the alternative – jumping off the back of the tiger and ignoring the rankings – is potentially even more dangerous (Hallinger, 2014, p.231).

Furthermore, Robertson (2022, p.433) argues that "rankings produce a new economy of worth and value; one that is now no longer entirely controlled by the academy, or even indeed the state". In this sense, GURs are associated with the external pressure on HEIs that is hard to avoid. As stated above, although various GURs measure and evaluate HEIs according to various criteria, they are mainly focused on the research performance of HEIs (Downing & Ganotice, 2016; Saisana & d'Hombres 2008). The next section will discuss the research performance of universities and why they play a key role in rankings' indicators.

Research performance of universities

Research performance indicators

The increasing role of GURs and competition between universities has led to the importance of improving the research performance of universities (Bazeley, 2010; Edgar & Geare, 2013). Linton et al. (2011) argue that these days the overall evaluation of HEIs weighs heavily on research. Many authors state that research evaluation stems from neoliberal ideas and marketisation and aims at the market-oriented competition (Gu & Levin, 2021; Watermeyer, 2016a). Research evaluation in some countries is centralised, as in the case of REF in the UK, while in others it is carried out at the institutional level (Gu & Levin, 2021; Y. H. Lee, 2020; Watermeyer & Tomlinson, 2022).

In a broader sense, the research performance of the university implies the quantity and quality of universities' research output (Xu, 2020). Measuring research performance can be implemented in various ways. The most common research performance indicators differ across countries and research fields but mainly include indicators such as the number of published articles, books, citations, honours and awards, research funding, the reputation of researchers, and received research grants (Aksnes et al., 2019; Aydin, 2017; Bazeley, 2010; Kallio et al., 2017).

The growing role of GURs has also contributed to the intensification of the assessment of research performance. For example, amongst GURs, the CWTS Leiden University ranking is

based entirely on bibliometric indicators. According to this ranking, the research performance of universities is assessed through two main indicators: citation impact and scientific collaboration. Frenken et al. (2017) analysed research performance indicators of universities based on Leiden University ranking criteria and concluded that the research performance of university depends mainly on its size, disciplinary orientation, and location. Other quantitative studies highlight the role of individual characteristics such as age and rank in enhancing research productivity (Bentley, 2012; Piro et al., 2013).

Various studies have examined the factors that contribute to the research performance of HEIs (Armijos Valdivieso et al., 2021; Edgar & Geare, 2013; Heng et al., 2020; Mohd Rasdi et al., 2022; Ocampo et al., 2022). The findings of the study by Edgar and Geare (2013) indicate that autonomy, egalitarianism and a strong cultural ethos supporting achievement and individualism are characteristics of departments that show high research performance. Ocampo et al. (2022) found that institutional support, reward system, research funding, mentoring, and electronic information resources are the most important factors enhancing research productivity. Similarly, Heng et al. (2020) analysed the factors that influence academics' research productivity in developing countries and found that these factors can be classified into three levels: individual (age, gender, academic rank, degree and discipline, time spent on research, research collaboration, proficiency in a foreign language, motivation, self-efficacy), institutional (availability of resources and funds, institutional orientation, institutional research policies, institutional culture, reward and incentive systems, leadership styles, and availability of leading researchers) and national (national policies, politics, culture, academic freedom, government investment, and support from industries, development partners and international donor agencies).

Some countries adopt the practice of merging universities in order to enhance the research performance of HEIs (Frølich & Stensaker, 2021; Kang & Liu, 2021; Salmi, 2016). For example, 2012 French initiative aimed at mergers and alliances of some universities to give more visibility (Salmi, 2016). However, Kang and Liu (2021) found that the merger of universities in China has not contributed to the improvement of research performance, on the contrary, it had a negative impact on university due to excessive government interference and the difficulties in cultural integration of different universities.

Overall, as outlined above, the research performance of HEIs is primarily measured through the number of published articles, and this provoked the growth of a "publish or perish" culture in academia (Kwiek, 2016; van Dalen, 2021; Yang et al., 2021).

"Publish or perish" culture

"Publish or perish" culture has become an integral part of university life and academics are forced to publish in international peer-reviewed journals in order to succeed in gaining a position or being promoted (Aprile et al., 2021; de Witte & Rogge, 2010; Nygaard, 2017; Paruzel-Czachura et al., 2021; van Dalen, 2021; Yang et al., 2021). This pressure has been amplified by GURs, which often heavily rely on research output and impact as key indicators of academic excellence (Allen, 2021b; Kwiek, 2016; Post et al., 2021; van Dalen, 2021). As discussed earlier, GURs often place a lot of emphasis on research productivity and output, with publications being a key factor in determining a university's research performance. As a result, universities face increasing pressure to produce and publish research in high-quality journals in order to improve their ranking position.

Numerous studies indicate increasing pressure from university management on academic staff to publish (Allen, 2021; Aprile et al., 2021; Chatio et al., 2023; Lu, 2022). For instance, in the study by Allen (2021b) conducted in Chinese universities, 33 participants out of 48 interviewees confirmed the pressure to publish in highly cited journals. Meanwhile, Orhan (2021) refers to the cases of dismissal due to refusal to publish in top journals, which shows how university administrators employ drastic actions in improving the research performance of the university.

While publishing is important for academic success, the pressure to publish can have various negative consequences. In an effort to meet the publication criteria, the pressure to publish can sometimes result in research misconduct, such as plagiarism or data fabrication (Biagioli & Lippman, 2020; Kurambayev & Freedman, 2021; Paruzel-Czachura et al., 2021; van Dalen & Henkens, 2012). As a result, the publish or perish culture has been criticised for prioritising quantity over quality and subjecting academics to excessive pressure that may have a negative impact on the academic community as a whole.

Performance-based funding

Another trend that is associated with the evaluation of the research performance of HEIs is the growth of performance-based funding in HE in different national contexts. The main aim of performance-based funding is to increase the accountability of HEIs over their spending of public funds (Jonkers & Zacharewicz, 2016; Jørgensen & Hanssen, 2018). Performance-based funding is considered as one of the manifestations of the neoliberal ideology and NPM (Dougherty & Natow, 2020; Lawrence & Rezai-Rashti, 2022). Proponents of performance-based funding argue that the aim of such funding is related to a government's desire to increase the responsibility of HEIs for their results. Thus, the government funds HEIs depending on various indicators such as student outcomes and research output.

One of the most debated issues is the impact of performance-based research funding systems. Various studies from different parts of the world indicate that performance incentives positively impacted the research performance of researchers and HEIs (Himanen & Puuska, 2022; Jonkers & Zacharewicz, 2016; Kim & Bak, 2020). However, some studies that analysed the impact of performance-based funding on universities found that it had little to no effect on improving institutional outcomes (Hillman et al., 2018; Umbricht et al., 2017). Several studies pointed out to varying influence of performance-based funding schemes on different academic fields. Deutz et al. (2021) analysed the impact of performance-based funding initiated by the Danish Ministry of Science and Higher Education in 2010 on publication rates of Danish researchers and found that effects of the performance-based funding differed depending on academic disciplines in Natural Sciences and Technology, Social Sciences and Humanities, and Health Sciences. Similarly, Söderlind et al. (2019) analysed the influence of performance-based research funding systems in Nordic countries and found that introduction of these schemes had different outcomes in countries, but overall had significant effect at the institutional level.

Overall, a review of the available literature on GURs indicates that HEIs employ various strategies in improving their research performance, including the pressure to publish and performance-based incentives in the pursuit of excellence. Thus, under the influence of GURs, HEIs prioritise publications and research metrics. Several theoretical frameworks can explain the impact of GURs on HEIs and the striving behaviour of HEIs in response. I used institutional theory and the theory of academic imperialism to examine the impact of GURs in the context

of Kazakhstan as they can provide useful perspectives in explaining the behaviour of HEIs in response to GURs as well as the growing hegemony of GURs in the HE systems, especially in developing countries.

Theories guiding the study

Under the impact of GURs, governments reform HE systems, and HEIs change their strategies and management (Allen, 2021; Bastedo & Bowman, 2011; Erkkilä & Piironen, 2020; Gornitzka, 2013). Taken together, institutional theory and the theory of academic imperialism can help better conceptualise the behaviour of HEIs in response to GURs as well as the impact of GURs on the HE systems, especially in developing countries.

Institutional theory

In this study, institutional theory is used to examine changes in institutional level as it can provide useful perspectives in explaining the organisational change and varying institutional responses to GURs (DiMaggio & Powell, 1983; Powell & DiMaggio, 2019). Institutional theory is one of the powerful theories in understanding issues in global HE and particularly in organisational studies (Marginson, 2017b; Wedlin, 2011). In the context of GURs, institutional theory helps to explain strategic behaviour of HEIs in response to rankings (Bastedo & Bowman, 2011; Sauder & Espeland, 2009).

GURs are already deeply embedded in the organisational environment, and universities simply cannot ignore them (Sauder & Espeland, 2009). Consequently, universities constantly compare themselves to their rivals and, consciously and unconsciously, actively immerse in the ranking race by employing different strategies. In some cases, dissatisfaction with the ranking position forces the university to make changes according to the ranking criteria. Martins (2005) argues that from the perspective of institutional theory, organisational changes in universities in response to rankings primarily occur in the form of isomorphism and conformity to ranking metrics.

Institutional isomorphism can be seen as one of the consequences of the influence of GURs. There are three mechanisms of institutional isomorphism: coercive, mimetic, and normative (DiMaggio & Powell, 1983; Powell & DiMaggio, 2019). Coercive isomorphism is manifested in the change in the practices and organisational forms of universities' activities under pressure

from the state and its agencies. With regards to GURs, coercive isomorphism is typically caused by government policy and pressure aimed at increasing the position of HEIs in GURs. Mimetic isomorphism is expressed in borrowing, imitation and copying the practices of successful competitors, for example, top-ranked prestigious universities. In the meantime, normative isomorphism relates to professionalisation and similar to coercive isomorphism, where external forces compel organisations to change. Mejía et al. (2020, p.62) argue that "university specialists and professional work networks are two aspects of the professionalization that can generate isomorphism, by defining and promulgating roles and conducts of organizational and professional behavior that are rapidly disseminated". Powell and DiMaggio (2019) argue that if the professionalisation of the organisation's members is greater, it is more apt to adopt the policies and practises of similar organisations.

Based on the institutional theory, Bastedo and Bowman (2011) identified three important mechanisms of strategic response that universities might use in response to GURs: reactivity, decoupling, and impression management. They state that reactivity shows how universities are influenced by the process of assessment and measurement. Assessments entail inevitable reaction from the universities since GURs affect reputation, competitiveness, resources, and income, and in many cases this activity is aimed at meeting the specific ranking criteria. Hence, being reactive means that that universities actively monitor GURs and coordinate their actions in accordance with the rankings results by effective management, allocation of financial resources, etc. As for decoupling, it occurs when universities, under the pressure from rankings, may employ different strategies to disconnect themselves from this influence. According to Boxenbaum and Jonsson (2018), decoupling can take place as a result of the tension between external institutional pressures and internal efficiency needs. Finally, impression management as response to GURs is one of the powerful organisational strategies and implies establishing a positive reputation and prestige of the university. Thus, institutional theory is useful in examining the influence of GURs from an organisational and individual perspective. However, the institutional theory fails to explain the influence of GURs outside organisations (HEIs), in other words, country-specific changes related to GURs.

Theory of academic imperialism

The theory of academic imperialism provides a useful perspective in explaining the growing hegemony of GURs in the HE systems of countries, especially developing countries and therefore can conceptualise the influence of GURs in national contexts. The theory of academic imperialism is rooted in the ideas of imperialism theories, which stress the unequal development of different countries and define imperialism as "the practice, theory, and the attitudes of a dominant metropolitan centre ruling in a distant territory" (Said, 1993).

The concept of "academic imperialism" emerged in the late 1960s, initially with an emphasis on the unequal development of academic disciplines and social research in countries of Latin America and Africa (Amsler, 2007). Academic imperialism as a form of Western imperialism tries to reinforce the idea that the HE system of Western countries is the best model that should be disseminated in the Third World, which has led to inequality between academia in developed and developing countries (Lloyd & Ordorika, 2021; Lo, 2011; Shahjahan & Morgan, 2016). In this regard, Altbach (2012) argues that the advancement of Western knowledge created centres and peripheries in HE. Since academic imperialism is less conspicuous and indirect compared to other types of imperialism such as political or economic imperialism, it softly imposes Western epistemology in the development of HE and research in developing countries (Alatas, 2003; Zeiny, 2019). Due to the rapid expansion of globalisation and internationalisation in HE, academic imperialism as a new form of colonialism can be manifested in the influence of GURs, the dominance of English and English-language journals and databases in academia, the spread of idea of the Western university model, academic mobility of students and faculty as well as the opening branches of the Western universities. In terms of the influence of GURs, Shahjahan and Morgan (2016) argue that GURs are not just about competition, but also coloniality, which plays a major role in constructing and maintaining this competition.

A more recent development in the theory of academic imperialism has pointed out that academic imperialism gives rise to academic dependency – the dependency of non-Western universities and researchers on Western academia (Alatas, 2003). Actually, the notion of academic dependency is useful to explain how HEIs from developing countries are adopting western policies. According to Alatas (2003), academics dependency can be manifested in dependence on ideas; dependence on the media of ideas; dependence on the technology of education; dependence on aid for research as well as teaching; dependence on investment in

education; and dependence of Third World social scientists on demand in the West for their skills. In other words, currently academic imperialism is maintained through academic dependency.

To sum up, institutional theory suggests that organisational changes in HEIs in response to GURs mostly manifest in the form of isomorphism and conformity to ranking metrics as well as employing different strategies including reactivity, decoupling and impression management. Meanwhile, the theory of academic imperialism offers an explanation of the increasing hegemony of GURs as western ideas in developing countries.

Summary

Global trends such as globalisation, internationalisation and massification of HE have dramatically changed the HE sector and increased the power of GURs as an external assessment of HEIs. Although GURs have been criticised for their various limitations, this does not hinder their growing popularity for nation-states and HEIs.

The literature showed how countries and HEIs use different strategies to improve their positioning in GURs, most often, by focusing on the research performance and allocation of significant resources. The literature also indicated the lack of studies conducted in developing countries on the impact of GURs while the majority of developing countries as non-English speaking countries suffer under the influence of GURs. Thus, this study aims to fill this gap by examining the influence of GURs in the context of Kazakhstan as one of the developing countries.

The literature also has identified various ways, both positive and negative, in which GURs influence HEIs. Additionally, GURs have emphasised the research performance, "publish or perish" culture and active development of performance-based funding schemes. In this regard, it is essential to understand the long-term implications of GURs on national HE systems and HEIs. The literature showed that HEIs simultaneously criticise and actively participate in GURs. If they refuse to participate in GURs, this can entail various negative consequences, such as a decrease in government funding and in the student numbers. However, the desire to take a higher position in GURs does not always lead to a positive result. Furthermore, in some cases already limited finances are allocated to unachievable goals.

Besides, the lack of measurements of the quality of teaching and learning and an excessive focus on research in rankings can distort institutional missions.

This literature review has led to a different set of questions, these being: What are the long-term implications of GURs on national HE systems? Why have GURs become a powerful catalyst for national HE reforms? Institutional theory and the theory of academic imperialism were chosen to conceptualise the behaviour of HEIs in response to GURs and the impact of GURs on the HE systems.

In this chapter, I was interested to study the phenomenon of GURs and how they affect HEIs. The next step in my research was to conduct a qualitative study, including semi-structured interviews with academic and senior management staff. Thus, the next chapter is devoted to the methodology of this study, in which I unpack the process of data collection and data analysis.

Chapter 3: Methodology

Introduction

The purpose of this study was to analyse and understand the impact of GURs on HEIs in Kazakhstan. The previous chapter presented the literature review, where major issues related to GURs were discussed. This chapter outlines the methodological foundations of the study, including research paradigm, research design, sampling, data collection and data analysis. This study employed a qualitative exploratory design to examine the impact of GURs on HEIs of Kazakhstan. The data collection process involved 17 interviews with academics and senior management to gain a deeper understanding of the context of the impact of GURs. Due to the constraints imposed by the COVID-19 pandemic, the research was exclusively conducted online, precluding face-to-face interactions.

Research questions

The literature review in Chapter 2 revealed significant impact of GURs on HEIs. It highlighted a tendency for HEIs to utilise different strategies to improve their ranking positions. This study seeks to contribute to the understanding of the impact of GURs on HEIs of Kazakhstan. To address the study aim, the next key research question has been formulated:

- How has the policy commitment to global university rankings affected higher education institutions in Kazakhstan?

Additionally, the following sub-research questions guided the study:

- How do academics and senior university management staff perceive and react to the utilisation of GURs within their institution?
- How have GURs influenced the research performance and productivity of the university?

Research paradigm: Interpretivism

Research paradigms refer to the assumptions and beliefs that guide and shape the research process, including the research design, the research questions, data collection and analysis methods, and the relationship between the researcher and the object of the research (J. Creswell & Creswell, 2022; Grant, 2022). Each research paradigm has its strengths and limitations and is suited for different research questions and contexts. Thus, it is important for researchers to thoroughly analyse their choice of research paradigm and how it fits with their intended research aim.

This study follows the principles of interpretivism. Interpretivism is a research paradigm that places a profound emphasis on the significance of comprehending and interpreting the subjective meanings people attach to their experiences. Interpretivism emphasises the socially constructed nature of reality and the role of individuals in shaping that reality and takes a distinctive stance on ontological considerations (Junjie & Yingxin, 2022; Ryan, 2018). From an ontological perspective, interpretivism aligns with the idea that reality is not fixed but is rather shaped by human experiences and interactions. Epistemologically, interpretivism contends that understanding the subjective meanings people attribute to their experiences is the best way to acquire knowledge. This aligns with the central tenet that reality is socially constructed, and knowledge is, therefore, a product of the intricate interplay between individuals and their social contexts. In adopting interpretivism, this study aims to unravel the complex meanings embedded in the perceptions and experiences of academic and senior management staff regarding the impact of GURs at a leading public university in Kazakhstan. Axiologically, the research process in interpretivism is acknowledged as value-laden, recognising the influence of the researcher's biases and perspectives on the study.

This study utilises interpretivism in a deliberate manner, offering a way to explore and comprehend the rich and subjective experiences of individuals. It is in line with the broader goal of capturing the extensive and intricate responses to GURs, especially within the unique context of a developing country's HE landscape. By employing interpretive paradigmatic lens, the study aims to provide subtle insights that go beyond quantitative measurements, enriching the discourse on the impact of GURs on HEIs in a globalised HE environment.

Methodological approach: a qualitative exploratory study

The choice of research method is influenced by the researcher's paradigmatic stance and the chosen research approach. Researchers who align with interpretivism tend to use an inductive approach and are inclined to employ qualitative research methods (Junjie & Yingxin, 2022). The use of this qualitative approach enables a comprehensive understanding of individuals and their contextual intricacies (Creswell & Creswell, 2022; Maxwell, 2013). This study utilises a qualitative exploratory methodology with the aim of understanding, exploring, or gaining insights into the nuanced perceptions and experiences of academic and senior management staff regarding the impact of GURs on the public university in Kazakhstan. This methodological approach is particularly helpful when the aim is to provide novel insights and ideas and the research field is not well understood (Creswell & Creswell, 2022; Denzin & Lincoln, 2000; Merriam & Tisdell, 2016). The selection of a qualitative approach aligns with the study's overarching objective of fully comprehending and exploring a complex phenomenon that lacks well-established knowledge.

The qualitative nature of the design facilitates an in-depth exploration of the multifaceted impact of GURs. By providing participants with the space to express their views in their own words, the study aims to reveal the intricate web of thoughts, attitudes, and experiences surrounding GURs within the academic and managerial realms of the chosen university. Through semi-structured interviews with a sample of 17 participants, the study seeks to uncover a spectrum of experiences and perceptions, allowing for a holistic understanding of the impact of GURs on the university.

Figure 4 represents the summary of the methodology of the study.

Figure 4. A summary of the research methodology

Site selection

Since this study concerns the impact of GURs on HEIs of Kazakhstan, possible site for future study was restricted by HEIs in Kazakhstan participating in GURs. Currently, 16 out of 120 HEIs in Kazakhstan are presented in two major GURs – the QS WUR and THE WUR. I emailed and sent letters of invitation to participate in the study to 9 universities out of 16 in the summer, 2021, based on their characteristics such as location and size. The representatives of 4 universities responded to my emails and 3 universities gave their consent. Due to challenges in recruiting participants at two universities, the university where a significant level of participation could be obtained was chosen as a research site. The sampled university is one of the leading universities in Kazakhstan that ranked in GURs. A signed permission letter from the university was received in August, 2021. The initiation of the data collection phase transpired after receiving approval from the Ethics Committee at the University of Bristol (Appendix A). Interviews were conducted over a two-month period, from September to November 2021.

Sampling strategy

This study focused on the perspectives of academics and senior management as they play a significant role in the research activities of the university, which is a key indicator of the major GURs. The target population was academic and senior management staff at public university of Kazakhstan that ranked in GURs. Academics in this study included tenured teaching staff with academic degrees from all faculties that divided as STEM and non-STEM. Senior management comprised of vice rectors, deans, and heads of departments.

Sampling is a fundamental step in any research project, as it is rarely feasible to study an entire population (Briggs et al., 2016; Creswell & Creswell, 2018; Punch & Oancea, 2014). To address the research purpose and research questions, this study utilised non-probability sampling approaches – purposeful sampling and snowball sampling, which are common sampling techniques in qualitative research (Onwuegbuzie & Collins, 2017; Robinson, 2014). Patton (2015) argues that purposeful sampling strategy "focuses on selecting information-rich cases whose study will illuminate the questions under study" (p. 230). Given the particular focus of this study on discerning the perspectives of university academics and senior management on the impact of GURs on their institutions, it was important to study the opinions of those who have active knowledge and substantial experience. To achieve this objective, a total of 17 online semi-structured interviews were conducted. Of 17 interviewees, 9 participants were recruited through survey, and 8 were recruited via snowball sampling from these respondents. The snowball sampling technique facilitates the rapid recruitment of participants. By referring others, participants can quickly increase the sample size, which is less time-consuming than other sampling methods (Parker et al., 2020). Additionally, the data saturation technique was employed to judiciously determine the interviewee cohort and sampling size. Data saturation is achieved when sufficient information has been collected to replicate the study and additional data does not provide new significant information (Fusch & Ness, 2015).

Data collection procedures and instrument

Interviews were the primary data collection instruments that were used in this study. Interviews were conducted in order to gather more in-depth insights on participant attitudes.

Why semi-structured interviews?

The primary data collection instruments involved online individual semi-structured interviews over the web-based video conference platform, Zoom. The interview allows the researcher to delve deeper into the interviewee's thoughts and perspectives (Briggs et al., 2016; Maxwell, 2013; Punch & Oansea, 2014). In the process of dialogue, the researcher not only asks questions for the purpose of subsequent processing of answers, but also brings the respondent's interests to the level of awareness and reflection (Merriam & Tisdell, 2016; Patton, 2015). Semi-structured interview is the research method most commonly used in the social sciences. While a structured interview contains a strict set of questions that do not allow for distraction, a semi-structured interview is open, allowing new ideas to come up during the interview as a result of what the interviewee says (Denzin & Lincoln, 2000).

Preceding the commencement of each interview, a Consent Form (Appendix B) was sent to participants along with a Zoom invitation. The Consent Form served as an important document that provided participants with essential information pertaining to the study, including assurances regarding the preservation of anonymity and confidentiality. These ethical considerations are meticulously included to establish trust and adhere to ethical standards throughout the research process.

The researcher developed an interview protocol (Appendix C) to guide the interview. Piloting the interview protocol with 2 volunteers allowed the researcher to refine and enhance the interview protocol, addressing any potential ambiguities or complexities and making changes to the interview protocol prior to moving to data collection. Each interview lasted from 30 to 60 minutes. To facilitate a comprehensive and accurate record of the interviews, each session was recorded via both Zoom and smartphone. These recordings were stored in separate locations, mitigating the risk of potential data loss and ensuring data storage. At the end of each interview, the researcher commenced the transcription and translation process. Transcriptions were created manually by utilising an intelligent verbatim transcription method when the meaning of what was said is more important than the precise wording that was used (Denzin & Lincoln, 2000; Merriam & Tisdell, 2016).

The interviews were conducted in Kazakh and Russian languages, since this is the mother tongue of the participants. Discussion of the participant's personal experiences would be

more productive where their mother tongue was the medium of communication. Moreover, a limited number of participants (2 out of 17) were able to provide their responses in English.

The adoption of interviews as data collection instruments proved to be very effective in achieving the aims of this study. It contributed to the development of a deeper understanding of the impact of GURs on HEIs in the context of Kazakhstan. The interviews revealed interviewees perspectives on the ways in which their institution responded to the impact of the GURs. Specifically, the interviews were useful for gathering information about the university's research activities in response to GURs.

Survey

In addition, an online survey was administered to offer a more comprehensive perspective on the investigated phenomenon and to glean supplementary insights from the sampled population. The survey questionnaire and its results are presented in Appendices D and E. The survey questionnaire was accessible on Google Forms for two months (from September 8, 2021, until November 1, 2021). A total of 166 respondents participated in the survey. Although the survey findings were not explicitly integrated into the study, they played a key role in informing the interview process.

Data analysis

In this study, thematic analysis was used to analysis of the qualitative data. Dedicated specialised computer software platform NVivo was utilised to analyse the qualitative data from the interviews.

Why thematic analysis?

In qualitative research, data collection and data analysis are not always distinct phases and can and should occur concurrently (Merriam & Tisdell, 2016; Punch & Oancea, 2014). McGrath et al. (2018, p.1005) note that "procrastination of data analysis may give the investigator the impression of facing a monumental task; meanwhile, an advantage of starting the work soon is that early thoughts about the analysis allow the investigator to become more aware of emerging categories and themes". Thus, in this study, qualitative data analysis

commenced as soon as the first interview was completed and continued throughout the data collection phase.

Thematic analysis has been applied to analyse the qualitative data in this study. The rationale for using thematic analysis lies in its capability in identifying similarities and differences in interview responses and ability to provide a structured, systematic, and in-depth exploration of the data (Braun & Clarke, 2006). Other key advantages of the thematic analysis include its flexibility, usefulness for summarising key characteristics of a large data set.

There are three types of the thematic analysis: coding reliability thematic analysis, codebook thematic analysis and reflexive thematic analysis (Braun & Clarke, 2006, 2021). This study utilised a reflexive thematic analysis. According to Braun and Clarke (2006), there are six phases of thematic analysis: familiarizing yourself with your data; generating initial codes; searching for themes; reviewing themes; defining and naming themes; producing the report. The data analysis process in this study was carried out according to these phases. In the first phase, a detailed review of all the data was conducted and initial ideas formulated. I have thoroughly read all my interview transcripts and notes before analysing them and I have highlighted details potentially interesting for the study and important to answer the research questions of the study. In the next stage, interview transcripts were imported to NVivo for analysis. The systematic organisation of the data ensures that the researcher does not overlook important aspects of the findings (Yin, 2014). After importing the interview transcripts to NVivo, I generated initial codes. Coding enables the researcher to identify ideas that are truly representative of the data (Denzin & Lincoln, 2000; Merriam & Tisdell, 2016). Codes allow to conveniently sort information and analyse data in such a way as to discover similarities, differences, and determine relationships between segments. Thus, coding plays a crucial role in determining themes in thematic analysis. During the coding I checked every piece of the data to reveal the meaning of the data and I gave the fragments a title that describes the data in it (descriptive coding). In the third phase, I reviewed all the codes and tried to find any relationships, similarities, differences or contradictions to discover themes. By systematically comparing passages of text within and between codes, I created initial themes. During this process, some codes were discarded due to vagueness while some codes transformed to new themes. After that, created themes were carefully examined and analysed to ensure their accuracy and usefulness. At that point, some themes were combined

or separated, and some were discarded, and new themes were created. In the next stage, when the final list of themes has been developed, each theme was clearly named. A report of the thematic analysis will be presented in the qualitative findings chapter.

Ethical considerations

This study received approval from the Ethics committee of the University of Bristol on September 8, 2021, specified in Appendix A. Therefore, the study followed the University of Bristol ethical guidelines as well as BERA guidelines with regard to the risks associated with participation in the study.

In this study, I examined the perceptions and experiences of academic staff and senior management (vice rectors, deans, heads of departments) on the impact of GURs at a public university in Kazakhstan. As I recruited and engaged human participants, ethical standards and protocols were essential part of the study. Main ethical procedures in the study included obtaining approval from the Ethics committee of the University of Bristol and a signed permission letter from participating university, obtaining consents from the participants, and ensuring their anonymity, data storage and data protection issues.

Data collection in this study conducted on a voluntary basis and only consenting adults were recruited to participate within the study. Before the start of the interviews, a consent form to participate in the study was sent to participants. This contained full information about the purpose of the study, data storage and data confidentiality issues, participants' rights of withdrawal, confidentiality, anonymity and potential risks. In addition, the participant information sheet provided important information about the purpose of the study, participants' rights, and contacts for further information. Additionally, before each interview all possible risks and ethical issues were explained to interviewees one-on-one.

The researcher ensured anonymity and confidentiality issues throughout this study. Interviewee participants participated in the study anonymously. For the anonymity concerns, interview participants identity was protected, and their names were replaced by numbers. To minimise the risks to access to the data, collected data were stored in an encrypted form in the researcher's personal computer and external hard drive with passwords only known to

the researcher. Overall, this study provided minimal risk to the participants and appropriate ethical and confidentiality considerations have been addressed in this study.

Research limitations

This study has several limitations that worth to be mentioned. The most important to acknowledge is that the study was limited in scope as was conducted exclusively at one institution. This institution is only one of the 16 HEIs of Kazakhstan that are represented in GURs. The small sample size has limited the generalisability of the results and therefore, the extent to which the findings of the study are generalisable to other institutions is questionable.

Additionally, the study was conducted online due to the Covid-19 restrictions. There were some connectivity and delay problems during conducting online interviews which possibly negatively impacted close and deep communication between the researcher and some interviewees. Furthermore, one interviewee refused video recording of the interview by stating feeling uncomfortable being recorded by the camera. Thus, there was an obvious lack of participant observation.

Summary

This study examined the perceptions and experiences of academic staff and senior management on the impact of GURs at a public university in Kazakhstan. The study follows the principles of interpretivism. This study utilised a qualitative exploratory design with an aim to gain a deeper and richer understanding of the impact of GURs on HEIs of Kazakhstan that involved semi-structured interviews with 17 participants.

The target population was academic and senior management staff at public university of Kazakhstan that ranked in the major GURs. The study utilised purposeful and snowball sampling strategies. Interviews were the primary data collection instruments that were used in this study. Data were analysed using thematic analysis.

This chapter outlined the methodology of the study including research design, sampling, data collection and analysis. It also described the ethical considerations and limitations of the study. Next chapter presents the findings collected through semi-structured interviews.

Chapter 4: Findings

Introduction

The previous chapter presented the methodology of the study. This chapter provides the findings from the qualitative data collected through the semi-structured interviews. The aim of this qualitative exploratory study was to gain a deeper and richer understanding of the perceptions and experiences of university academics and senior management on the impact of GURs on their institution, a public university in Kazakhstan. The author attempted to understand how this university is responding to GURs and what strategies it use to improve the ranking position. As such, the following over-arching research question guided the study:

- How has the policy commitment to global university rankings affected higher education institutions in Kazakhstan?

Additionally, following sub-research questions guided the study:

- How do academics and senior university management staff perceive and react to the utilisation of GURs within their institution?
- How have GURs influenced the research performance and productivity of the university?

The chapter is organised as follows: it first presents the profiles of interview participants. After that, the main themes that emerged from qualitative data analysis are presented. Finally, summary of the findings is provided.

The profile of the participants of the interviews

Table 1 presents general information about the participants. Pseudonyms were used to ensure anonymity of the participants according to ethical guidelines. Among 17 participants, 5 were females (29.4%) and 12 males (70.6%). With respect to academic disciplines, 6 participants were from STEM and 11 participants from non-STEM faculties. Finally, 8 participants were academics while 9 participants hold various leadership positions. Of these 9 participants one interviewee was Vice-Rector, 3 deans and 5 heads of departments.

Participant	Gender	Discipline	Position
P1	Male	Non-STEM	Head of department
P2	Male	Non-STEM	Academic
P3	Male	STEM	Dean
P4	Male	Non-STEM	Academic
P5	Male	Non-STEM	Vice-Rector
P6	Male	STEM	Academic
P7	Male	Non-STEM	Academic
P8	Female	Non-STEM	Academic
P9	Male	STEM	Head of department
P10	Female	STEM	Academic
P11	Female	Non-STEM	Academic
P12	Male	Non-STEM	Head of department
P13	Male	STEM	Dean
P14	Male	STEM	Head of department
P15	Female	Non-STEM	Dean
P16	Female	Non-STEM	Academic
P17	Male	Non-STEM	Head of department

Table 1. Interview participants profile

Themes

After analysing the qualitative data, four dominant themes emerged that form the structure of the qualitative findings section: strategic intention of institutions to enhance their ranking position, barriers to research performance, gaming the rankings, and tensions in adopting a new research culture.

These themes relate to various aspects of research aim and research questions. Themes with sub-themes are presented in Figure 5.
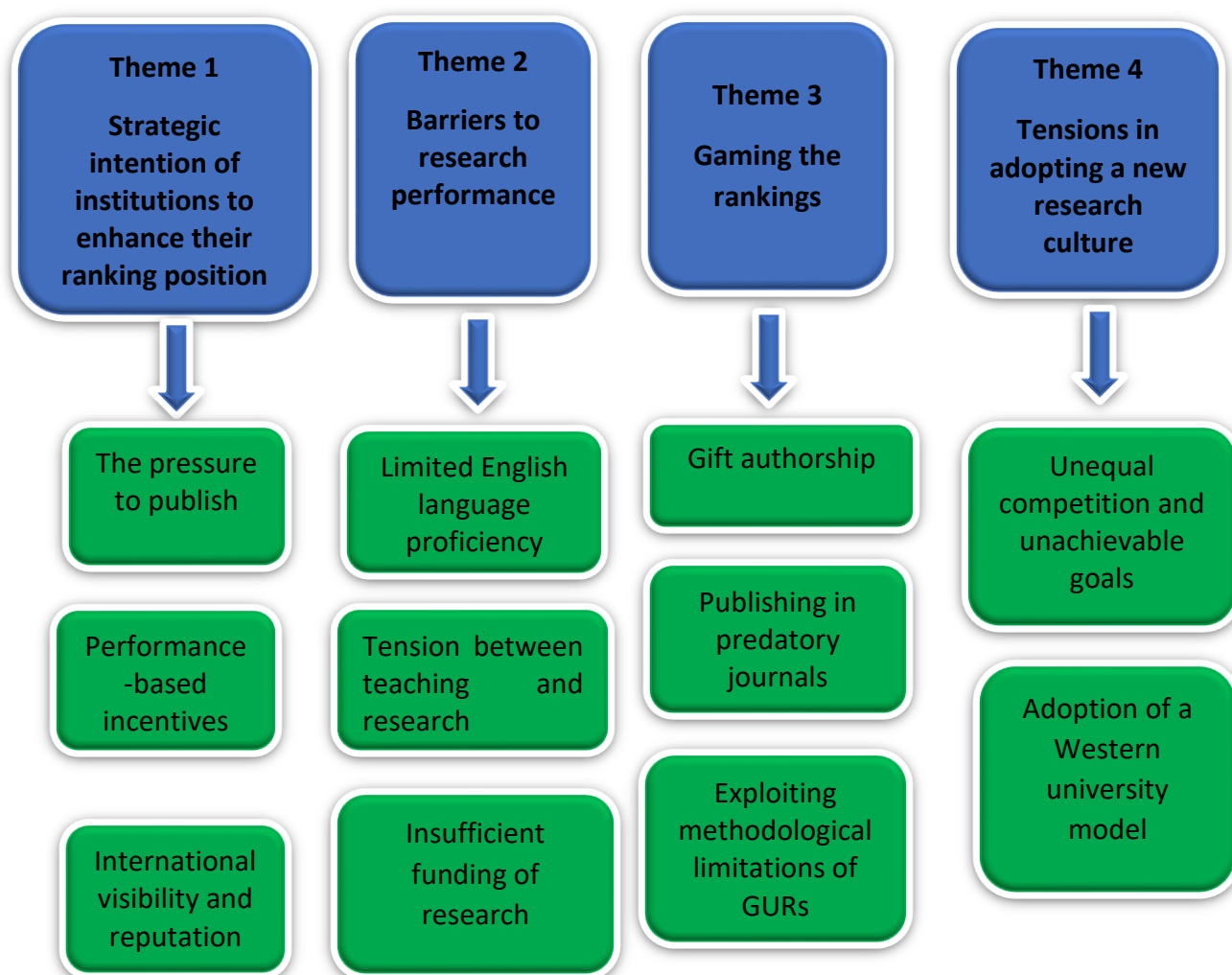
Figure 5. Themes and sub-themes

Theme 1. Strategic intention of institutions to enhance their ranking position

The results of interviews indicated that as the university set targets to enhance its position in GURs, it simultaneously imposed the pressure to publish in international peer-reviewed journals and provided various performance-based incentives schemes. Most participants highlighted an institutional focus on research performance as a result of participation in GURs. Others stressed the role of globalisation in increasing impact of GURs. Some interviewees admitted the role of GURs in evaluating institution's position in a global scale and in accelerating its popularity and international visibility. Therefore, they expressed confidence that all expenses associated with the rankings will be cost-effective. However, the findings revealed that participation in GURs mainly led to increased pressure to publish.

The pressure to publish. "The pressure to publish" was one of the frequent categories from interview transcripts with 16 references. There was common agreement that the pressure to publish was intensified as a result of rankings' influence and strategic intention of their university to participate in GURs.

A large number of responses indicate that participation in GURs has led to pressure to publish while their university applies a "carrot and stick" approach in implementing its intention to improve research performance. Some participants suggested that it should be no surprise that universities across the globe tend to focus on research performance as most GURs primarily assess the research activities of the universities through indicators such as citations per faculty, research income and papers per research and academic staff. Thus, the majority of participants highlighted that "the pressure to publish" had become an integral part of their institutional culture and that in many cases academic promotion and tenure depend on publication metrics. They explained this shift through the influence of GURs on the national HE system. In particular, interviewees referred the growing role of H-index in academia. The *h*-index is a special bibliometric indicator which is used to compare the research impact of individual researchers quantitatively and combines both the publication activity indicators and citation indicators into one value (Gruber, 2014).

When describing current changes in their institution in relation to the influence of GURs, participants noted that a requirement to publish for academic staff has intensified where their institution sought to ameliorate its ranking position. The following comment showcases how the pressure to publish is linked to the ambition of the university to improve its ranking position:

> This year our university set a strategic goal to improve its position in the QS ranking. To do so, the Hirsch index of our academic staff should be high. Academic staff must publish more articles in international journals that are indexed in Scopus. Citations are also important **(P3, Dean – STEM).**

Some participants expressed disagreement with such requirements and indicated that they increasingly feel pressure by working under this culture. They were concerned about the implications of the coercive policy of the government with respect to participation in GURs. The following quotes explain this in more detail:

National HE policy, including the Strategy for 2020-2025, legally fixed the participation of national universities in GURs. This means that universities have to develop only within the framework of this established system, and there are no other alternatives **(P4, Academic – Non-STEM).**

We are being pressured by the Ministry of Education to participate in GURs. Such stringent requirements were set. For example, academic staff are required to publish at least one article in international journals per year. We should bear in mind that the primary mission of the university is teaching not research. Besides, I know a lot of talented teachers that provide high-quality education but are not able to do research and write articles. Conversely, some researchers are not able to transfer their knowledge to students no matter how strong they are as researchers **(P14, Head of Department – STEM).**

Many participants noted that meeting publishing requirements impose additional financial costs on academic staff. For instance, the participant **P1 (Head of Department – Non-STEM)** stated that "to meet the publishing requirements, I have to invest extra money, sometimes even my two months' salary. University is forcing me to do it". Other participants further elaborated on the financial burden of the "publish or perish" culture:

I paid $1200 when I published the article in Scopus while my salary is very low. Publishing articles seriously affect my family's budget **(P11, Academic – Non-STEM).**

Obviously, this is some kind of pressure on the part of the university administration. Because, as we all know, these articles are not published for free. Sometimes they cost up to $1000-2000. Many academics do not have enough money. Most importantly, we all feel a language barrier. At our university, each academic must publish at least one article per year in Scopus. We must. It means, we publish articles only to fulfil this requirement **(P4, Academic – Non-STEM).**

Thus, several participants stressed that their research productivity in the last years was driven by external pressure from the university and HE policy rather than personal motivation.

On the other hand, most interview participants admitted that they feel a personal responsibility to improve the research performance of the university:

I feel a pervasive expectation that we should publish more. However, for me, the objective is not solely to achieve personal success; it is also to contribute to the university's reputation. And I feel a responsibility to meet these demands and improve the research performance of our university **(P17, Academic – Non-STEM).**

There is a constant pressure to publish. But resisting the pressure is tough. Even though I try to deny it, I know that publishing is more significant in the end. Currently, publishing and research are more rewarding than teaching **(P10, Academic – STEM).**

These interview excerpts shed light on the complex interplay between managerial demands and academic compliance in meeting expectations for increased research productivity.

Another important issue mentioned by participants was the requirement to publish articles for awarding the PhD degree. Currently, according to the Rules for awarding degrees from 31.03.2011, doctoral candidates must publish at least 2 articles in international peer-reviewed journals with Q1, Q2 quartiles that are indexed in Scopus or Web of Science. There was consensus that this requirement stems directly from the government's ambitions to improve research performance and enhance the ranking positions of national HEIs. The participants stressed that many doctoral students who have completed their dissertations are unable to defend it because of this requirement:

> Many doctoral students cannot get their degrees for several years after completing the dissertation. When I asked them, their main problem was the publishing articles in journals that included in Scopus or Web of Science databases. I think an alternative should be offered here. If you cannot publish an article in Scopus, as an alternative, you should be allowed to publish articles in prestigious journals at the level of Kazakhstan, Central Asia, or CIS. In my opinion, this obligation is wrong **(P7, Academic – Non-STEM).**

In this regard, some interviewees highlighted more recent alternative changes that were introduced by the MoES in 2021:

> I personally support publishing requirements for doctoral students, and one recent positive news is that in Kazakhstan, doctoral students who have published two articles in Q1 journals can award the PhD degree without writing a 200-300 page dissertation. I believe that this is a great stimulus **(P6, Academic – STEM).**

Most participants stated that this is a "great opportunity" for researchers. They stressed that these changes could reduce the number of poor-quality articles and encourage researchers to focus on prestigious journals:

> I fully support these changes. PhD defence system in Kazakhstan is now a weak imitation of the former Soviet procedures. Plenty of poor-quality dissertations. And I would say that an article published in an international prestigious journal is more effective for developing research. I believe that it is necessary to get rid of the old procedures and start a new path **(P12, Head of Department – Non-STEM).**

> I think this is a positive trend. It indicates that the government is encouraging our researchers to publish articles in high-quality journals. As a result, I believe that the quality of research in our academic community will progressively improve **(P17, Head of Department – Non-STEM).**

Even participants who resist the pressure to publish, conceded that this requirement has strengthened the research culture and contributed to the growing significance of research at universities in Kazakhstan which are historically more teaching-oriented:

> As for publications, I cannot claim that every article published by our researchers promotes research. However, at a certain level, it has contributed to the integration of our research and researchers into the world's leading research environment. I believe we are on the right path. Now, every academic in Kazakhstan knows what Scopus is and what a Q1 journal is **(P12, Head of Department – Non-STEM).**

However, some participants expressed the view that the requirement for publishing articles fails to take into account the differences between STEM and non-STEM disciplines. They spoke of the numerous differences in conducting research in STEM and non-STEM areas:

> Our university is interested in improving its position in GURs by requiring articles to be published in Scopus journals. In my opinion, it is wrong to require from all academics without consideration disciplines' differences. It is especially difficult to publish for researchers in the humanities. No doubt that research results in the natural sciences are of interest to the whole world. Meanwhile, research on Kazakhstan's history, national policy or language is difficult to publish in international journals. It is not always interesting to researchers around the world. I have noticed that it is much easier to publish articles and get a degree in technical and natural sciences. The results of the technical sciences, for example, the results of laboratory research are tangible while in the humanities and social sciences it is more difficult to show **(P7, Academic – Non-STEM).**

> Obviously, STEM and non-STEM disciplines are different. For example, if we look at the Hirsch Index of researchers, in areas such as medicine, the index is higher, and more articles are published. In social sciences it is difficult to achieve a high index **(P14, Head of Department – STEM).**

> When determining publication requirements, it is necessary to take into account the difference between STEM and non-STEM fields. For the most part, STEM researchers publish papers quickly and free of charge. And in the humanities, if an article has no empirical data, it is difficult to publish and there are often publication fees. Since I am from non-STEM faculty, it is really difficult for me to publish free articles. It takes a very long time **(P15, Dean – Non-STEM).**

Another major issue related to the pressure to publish is the requirement to have at least 1 article in the journals with Q1, Q2 quartiles that are indexed in Scopus or Web of Science databases in the last 5 years in order to supervise postgraduate students. Most participants expressed their concern on this requirement:

> If you do not publish articles in journals indexed by Scopus or Web of Science, you cannot supervise master and doctoral students. The eligibility to become a supervisor

is dependent upon publishing in journals with a designated impact factor. That is, the government not only requires but also forces us to publish articles in international peer-reviewed journals. The absence of articles in high-impact journals has led to experienced professors and researchers being disqualified from supervisory roles, despite their wealth of experience. Meanwhile, younger researchers who have studied abroad, even with limited experience, can ascend to leadership positions in the research community, including roles as rectors and vice-rectors, by virtue of their ability to publish in international journals. I think it's incorrect to solely rely on these criteria to determine the position of a supervisor **(P17, Head of Department – Non-STEM).**

One notable observation regarding the pressure to publish pertains to the varying perceptions of this pressure among researchers from STEM and non-STEM fields. Although researchers across both domains acknowledge the growing pressure to publish as a result of participation in GURs, STEM researchers tend to justify the necessity of publishing:

There are numerous publishing requirements: for doctoral students, for obtaining the degrees of Associate Professor and Professor, and for the research grants. All this requires the certain number of articles published in international journals. However, I think that this trend affects positively the research community. For example, there are also experienced researchers in other countries of Central Asia, but thanks to such publication requirements, we overtook them in publication activity. Certainly, there are no ideal systems, just as the system for evaluating researchers by their publication activity cannot be ideal. But, in general, taking into account some imperfections, this is one of the few systems that allow to evaluate the success of research activity **(P9, Head of Department – STEM).**

On the other hand, most participants admitted that the pressure to publish has not actually enhanced research performance of their university:

Our university set a goal to improve its ranking position and immediately the requirements for publications became tougher. All significant areas in HE have become tied to articles. If an academic does not have one article in an international journal, indexed in Scopus, then he cannot supervise doctoral students and masters, and cannot participate in research projects, moreover, some experienced professors are fired due to the absence of articles. But in general, the research performance of our university has not improved. Maybe there are some improvements in other areas, for example, in STEM, but in the humanities, the research productivity of academic staff is very low **(P17, Head of Department – Non-STEM).**

Indeed, STEM participants generally positively assessed the pressure to publish and were confident that the research performance of the university had enhanced significantly:

The research performance of our university has really improved. This is not my opinion; these are objective figures. We are growing in all areas. At our faculty, there

is an increase in publication activity, and a lot of research projects, including international ones, have been won **(P9, Head of Department – STEM).**

To sum up, the pressure to publish has become a prevalent and contentious issue in the context of universities' participation in GURs. This pressure is primarily driven by the strategic intentions of universities to improve their ranking positions and the influence of government policies mandating GUR participation. It has led to a "publish or perish" culture, with academics feeling compelled to publish in international journals, particularly those indexed in Scopus or Web of Science, and achieve high Hirsch indices to meet university and government requirements.

Performance-based incentives. The findings revealed that the university not only required from academic staff to publish articles but also offered various performance-based incentive schemes to stimulate them. Participants recognised the role of incentive systems in boosting research performance and productivity of the university. However, some academics stated that the university emphasises publications in international peer-reviewed journals indexed in Scopus and Web of Science over other research work such as inventions and publishing books. Several participants shared their concerns about some unintended consequences of incentives such as the spread of low-quality articles.

A number of participants highlighted the Key Performance Indicator (KPI) system implemented at the university as an example of successful incentive scheme. Some saw the KPI as an additional incentive for academic staff, contributing to their professional development. Participants stated that at the end of the academic year, the university calculates the KPI for teaching staff, heads of departments and deans of faculties and that the system is based on the principles of objectivity, transparency, and feasibility. Participants viewed this scheme as an effective way for stimulating research performance of the university. The following excerpts demonstrate how participants view incentive schemes positively:

> We have a KPI where each academic indicates the work done during the academic year. It has five sections. Some of them are research projects, the number of articles published in journals with a high impact factor, and the Hirsch index for the last five years. If your article is published in a journal with high percentile, the university will reimburse your expenses. This is a great incentive for us. But the main requirement – the article should be published in a high-quality international journal **(P6, Academic – STEM)**.

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Our university provides incentives based on the KPI. For example, I have received a significant amount of funding for three consecutive years. It was calculated according to the numbers of my articles in Scopus and published monographs. I would like to highlight, that we tend to complain a lot about work conditions or requirements to publish, but I have been working in the HE sector for twenty years, and I think that a lot has changed in the last five years in our country. For example, our university covers all our expenditures related to publishing, especially if it was published in prestigious journals with Q1, Q2. This is really a great support for us (**P8, Academic – Non-STEM).**

Some participants argued that such incentives reflect the university's strategic desire to improve its ranking position. According to participant **P7**, "the university provided additional financial support to motivate academic staff by introducing KPI with the aim to raise the university's position in GURs" **(P7, Academic – Non-STEM).**

In addition to the institutional KPI system, the majority of participants highlighted a positive and impactful government initiative aimed at promoting research activities within universities through the provision of grant funding. They stressed that through affirmative measures to support research endeavours, the government shows a commitment to developing a culture of innovation, knowledge creation, and academic excellence in universities.

In recent years, the government has taken proactive measures to promote research endeavours at universities, with a pivotal initiative being the provision of grant funding for research projects. Despite the inclusion of specific eligibility criteria, such as the requirement for articles published in international peer-reviewed journals, this initiative is significant in promoting research engagement. The grant will provide funding for three years if you win it. Notably, the monthly remuneration of the grant surpasses my basic salary 2-3 times. This elevated financial incentive serves as a powerful motivation for researchers to conduct impactful research and to publish articles in international journals **(P17, Head of Department – Non-STEM).**

Several participants mentioned that in addition to financial incentives, a new category of "researcher" was introduced at the university, which allowed academics to focus on research while also benefiting from additional funding. The following extract shows how much participant **P10** enjoyed her role as a researcher:

Last year I held the position of a researcher. University reduced my teaching hours. Thus, I worked part time. Secondly, my salary has doubled. This is a real support for academic staff who wish to contribute to university's research. After all, GURs such as the QS ranking primarily assess the research performance of the university **(P10, Academic – STEM**).

While recognising overall positive impact of incentives schemes in driving the research culture, some participants warned about its limitations and possible negative implications.

Participant **P17** emphasised the negative role that incentives play in prioritising quantity over quality as follows:

> The negative consequences of such incentive schemes are that academic staff are more likely to focus on quantity rather than quality. For instance, some academics tend to publish articles without contribution, join research projects that they do not understand, participate in conferences and seminars only to increase the KPI scores. Although some of our colleagues are not recognised as researchers, their KPI scores are high **(P17, Head of Department – Non-STEM)**.

Thus, interview participants stressed that the effectiveness of such incentive systems should be reconsidered, and the attention should be paid on quality rather than quantity.

International visibility and reputation. Interview results indicated that the positive impact of the university's strategic intention to improving the ranking position is reflected in growing international visibility of the university. Participants highlighted the increasing volume of international collaboration, joint projects, and the growing number of international staff and students. For example, participant **P16 (Academic – Non-STEM)** pointed out that as a result of participation in GURs, international cooperation with European universities has been strengthened.

Overall, participants perceived the participation of their university in GURs with optimism. The following excerpts emphasise the positive influence of GURs on the reputation of the university:

> For every university, its reputation matters. Reputation impacts the way stakeholders view an institution. When students choose universities, they look at its reputation and ranking position. Therefore, GURs are essential for HEIs that seek to enhance their reputation. Additionally, I believe that top ranked universities provide better quality education **(P15, Dean – Non-STEM)**.

> As a result of the participation in GURs, the research success of academic staff has become relevant. Therefore, GURs for us, on the one hand, are a stimulus for development. On the other hand, HEIs in our country tend to highlight some parameters of GURs and try to achieve them by any means. For example, the presence of international students does not in itself guarantee a high-ranking position. Some parameters we can achieve, some we cannot. But in the long run, I evaluate participation in GURs extremely positively. It is clear that a good ranking position ensures a good reputation of the university **(P9, Head of Department – STEM)**.

Several interviewees highlighted the role of online education in increasing number of international staff. Participants mainly viewed online education as an opportunity to

collaborate with leading universities in the world and enhance the visibility of their own university.

> Previously, we had few international staff. Since the pandemic, the number of foreign professors has increased with the introduction of online education and distance learning. This is evidence of the benefits of online education **(P7, Academic – Non-STEM).**

Many academics noted that international staff have contributed to raising the visibility of the university globally. In addition, some interviewees argued that international staff had brought a new impetus to institutional culture:

> A foreign professor brings with him a new methodology, new knowledge and experience, new research. We learn a lot from them without going to their country. The main point is choosing the right candidates **(P7, Academic – Non-STEM).**

Thus, concerns were expressed in relation to the criteria for hiring for international staff. Participants highlighted that the university should be more selective in recruiting international staff. Several participants commented that given the significant salary disparity – international staff often receive three times more remuneration – the selection criteria should correspondingly reflect higher standards. A number of participants suggested a modification of the present recruitment procedures to align them more closely with the desired qualifications and expertise.

In terms of international students, all the participants stated that their university became more attractive for international students as its ranking position in GURs strengthened. Some academics added that teaching international students influenced them positively, as it helped build their English skills. Participant **P9** explained the role of ranking position for international students as follows:

> Participation in GURs will primarily attract students. If a university has high ranking position, definitely, students will choose this particular university. Students may not know about publication activity of the university, about the educational process, but the rankings take all this into account and provide the necessary information to students. In addition, I think the number of international students is an important ranking criterion. Firstly, it shows how well we work, that students from abroad choose our university. Secondly, it is also useful for our students, because foreign students bring their unique experience and knowledge. They are in some ways better than our students. This increases competition amongst students **(P9, Head of Department – STEM).**

Despite these assertions, most academics added that the proportion of international students is still low and that they mainly came from former Soviet countries. Participant **P5 (Vice-Rector – Non-STEM)** stressed, "our international students are predominantly from neighbouring countries. Some students come to learn Russian, as it is Kazakhstan's official language". The following comments further elaborate on the problem of the lack of international students:

> The country should be politically and geographically attractive for international students. If there is political or economic instability, high prices, no one except Kazakhs will come to our university. I would say that currently 90% of our international students are Kazakhs from other countries such as Uzbekistan and China. They chose our university only to stay in their historical homeland **(P1, Head of Department – Non-STEM).**

> We have a limited number of international students, despite the fact that the ranking position of our university is comparatively high, and we are quite successful in terms of research output. A number of reasons may explain this, not least the country's image. If a potential international student is faced with the choice between an average US university or our university, then he will undoubtedly choose a US university. Our HE system is constantly changing, it is only in the process of inception, while the educational systems of developed countries such as the USA and England have a long history. And it is not easy for us to compete with developed countries in attracting international students **(P9, Head of Department – STEM).**

Theme 2. Barriers to research performance

During the interviews, the participants indicated various barriers that hinder the improvement of research performance of university in general and for engaging in research personally for them. They highlighted that these barriers also have a negative impact on improving their university's ranking position in GURs.

Limited English language proficiency. All the participants referred to the lack of English language proficiency as a main barrier to improving the research performance of the university. Most participants noted that the language barrier also hinders the development of partnerships with foreign universities. They also commented on the greater weight of articles published in English in international journals compared to local journals. Overall, participants admitted the growing role of English within the academia of Kazakhstan:

> English is the language of communication and modern research. We cannot learn global research and knowledge only through Kazakh language… The level of English in our university is still low. Although I know my discipline, I do not know English. I cannot

travel abroad for lectures and conferences. If I knew English, I think I would share a lot of interesting thoughts and ideas. We are limited by the language barrier **(P8, Academic – STEM).**

Others saw a direct correlation between the impact of GURs and rising demand for publishing in English. Some participants argued that the pressure to publish combined with a language barrier has caused the spread of the negative phenomenon such as gift authorship. Participant **P1** noted:

Personally, I do not know English, so I have to join others in publishing articles in international journals... The government did not provide me with opportunity to learn English, but it is forcing me to publish in English **(P1, Head of Department – Non-STEM).**

A number of participants questioned whether a modern Kazakh academic should be proficient in English. While discussing the advantages of publishing in English they pointed out that institutions that publish research in English have the potential to increase their global visibility by reaching a larger audience. For example, participant **P10** pointed out that there is a limited number of researchers in Kazakhstan in her research area and that knowing English has increased her research audience. The following comments show how the participants recognise the importance of English:

I believe that modern academics in non-English speaking countries should be fluent in English. For us, older generation, Russian language provided access to research and knowledge. Now English is becoming increasingly important in academia. That is why our university has multilingual groups, English groups **(P3, Dean – STEM).**

In order to integrate into the global HE area, we have to know English. For example, our university has multilingual groups, we teach in English. It is a positive development **(P15, Dean – Non-STEM)**.

While all the participants recognised the importance of English in enhancing the research performance, few interviewees shared their concern about disadvantaged position of Kazakh language in research. Participant **P4** argued that under requirements publishing in English, Kazakh language is losing its role in research.

Several participants emphasised the role of new technologies and other alternatives in overcoming language barriers. The participant **P14** highlighted that in Russia some journals translate high quality articles written in Russian and publish in English. Some participants referred to collaboration with English-speaking researchers in overcoming the language barrier:

I read that a Japanese researcher who did not know English won the Nobel Prize in Physics. But his colleague and student, who received this award with him was fluent in English and, accordingly, published his works in international journals **(P9, Head of Department – STEM).**

Several participants raised concerns about the older generation of researchers in light of the pressure to publish in English. They pointed out that while these researchers possess advanced research skills developed since the Soviet period, most of them feel uncomfortable with all these publication requirements. Participant **P11** stated that compared to younger colleagues, it is difficult for older researchers to learn English and that publishing in English is the biggest problem for them. Participant **P3** highlighted that in many cases older researchers have to hire translators to publish articles in English. The following excerpt shows the feeling of the experienced academic on the requirement of publishing in English:

Our older generation of researchers, who formed and developed the research in our country is left behind. Because they do not know English. For example, I have limited English proficiency and I cannot publish articles in English. Personally, I see the requirement to publish in English as a devaluation of my research, which was published in Russian and Kazakh **(P2, Academic – Non-STEM).**

To summarise, the language barrier, primarily related to low English language competency, poses a significant challenge to enhancing the research performance of the university. This barrier impedes collaboration with foreign universities as well as the ability of individual scholars to disseminate their ideas and information globally.

Tension between teaching and research. Interview results revealed that teaching load has been intensified in recent years. Some participants attributed the heavy teaching load to the increase in the number of state grants and students. Most interviewees reported that about 80/20 of their time was devoted to teaching and research. Moreover, they claimed that their teaching workload was significantly greater than the allotted number of teaching hours per year set by the MoSHE. They highlighted that although the university aims to improve its research performance and position in GURs, academic staff still mainly concentrate on teaching. Almost all participants indicated that there was insufficient time to develop their research skills, whereas the university requires high research productivity. Both the academic and senior management staff expressed concerns about the difficulty of simultaneously engaging in teaching and research and emphasised the conflict between teaching and research:

Personally, I support the idea of a research university. I believe that 70 percent of academic staff's workload should be devoted to research, 20 percent – teaching, and 10 percent – other organisational responsibilities. If that were the case, we would benefit from research, and we would say that commercialisation is underway. In practice, we have the reverse situation. 70 percent of our academic staff's workload is allocated to teaching. It is very tiring. Some are teaching from dawn to dusk. Some teach four to five subjects **(P5, Vice-Rector – Non-STEM).**

Although the average annual workload recommended by the Ministry is 640 hours, our average workload is 800-900 hours per year. There is no time to do research **(P12, Head of Department – Non-STEM).**

For example, I teach 40 hours per week. Moreover, I have also advisory, practical works, partnerships with the employers and other administrative works. So, how I can do research? I am teaching from morning to evening, from 8 am to 6 pm, and sometimes I have to prepare for lessons until midnight **(P4, Academic – Non-STEM).**

I think the biggest barrier to improving the research productivity of faculty in Kazakhstan is the lack of time. I have done internships in various western universities. For example, a professor in Amsterdam has a workload of 300-360 hours per year, while our teaching staff works in average 500-800 hours. As a result, many academics in Kazakhstan are primarily focused on teaching and often find it challenging to engage in research **(P15, Dean – Non-STEM).**

In addition to the heavy teaching load, some academics mentioned other workload that stems from the participation in GURs. They mainly referred to data preparation for various GURs and highlighted that it requires considerable time. Participant **P3** stated that in the early years of participation in GURs, they all had to go through a lot of paperwork. Similarly, the participant **P14** argued that when university participates in different GURs, the main burden falls on academic staff**.** Meanwhile, participant **P4** added that preparation of documents for participation in GURs is the task of the academic staff and the time that they could spent on teaching and research is spent on fulfilling the ranking requirements, and it is unpaid work.

Some participants reflected on other responsibilities of academic staff besides teaching and research. These types of responsibilities included participation in various meetings and elections. For example, the participant **P8** noted, "I am responsible for community service outside of my classes. Additionally, over the past 20 years, I have been involved in developing educational programmes and syllabuses".

On the other hand, some interviewees commented on different opportunities for focusing on research, particularly the new category of academic staff mentioned above – "researcher".

However, they stated that the requirements for this position are unattainable for the majority of academics and other alternatives should be introduced:

> In our department, a significant amount of time is dedicated to classroom lectures compared to research. Nevertheless, this year, our university introduced a new category of "researcher" for individuals interested in long-term research commitments, spanning from one to three years. These researchers will receive substantial funding. However, the eligibility requirements for this position are quite stringent. University requires a specific number of articles published in prestigious international journals indexed in Scopus. The Hirsch index is also taken into account. Of course, not everyone can meet these requirements. Therefore, it would be better to create additional categories such as "young researcher", to provide support for early-career researchers **(P16, Academic – Non-STEM).**

Most participants highlighted that research production is more rewarding compared to teaching, where recognition and rewards for achievement are less abundant:

> I would say that research productivity weighs more than teaching in terms of rewards and incentives. Although teaching itself has important contribution to our society, these days research production is the top priority for our institution. Various incentive schemes provided by the government and university prioritise the research productivity of the academic staff **(P11, Academic – Non-STEM).**

In summary, the ongoing tension between teaching and research, as revealed by the interview findings, constitutes a significant barrier to improving the university's research performance. This conflict, driven by heavy teaching loads and a lack of time for research, challenges the pursuit of high research productivity, thereby highlighting the need for a more balanced approach that enables academics to effectively engage in both teaching and research activities.

Insufficient funding of research. According to the participants, the insufficient funding of research and institutional facilities is a serious barrier to enhancing the research performance of the university. They stated that university's aim to improve its rankings position does not match its financial capability. Participant **P10** noted that although numerous reforms have been launched to establish the Western university model, the financial situation of the university does not correspond to it.

> Foreign universities have greater financial means and improved laboratory facilities. For instance, the laboratory of one Korean university is more expensive than the total budget of our university **(P9, Head of Department – STEM).**

Some participants argued that the financial problems of universities stem from insufficient state funding and pointed to low level of gross domestic spending on research and development. Participant **P2** noted that, "the government aims to increase the share of funding allocated to research to 1% of GDP. Now it is equal to 0.2%, almost zero". In addition, several participants highlighted unequal distribution of funds between central and regional universities.

Most participants expressed dissatisfaction with the low salary of academic staff. They highlighted that comparatively high salary would encourage them to provide high quality teaching and research. Some participants stressed that university is improving its ranking position primarily through research activities of academic staff and therefore should allocate appropriate funding and facilities in return. Participant **P10** argued that "to enhance the quality of education, university should motivate academics. Accordingly, there should be an adequate salary. It is necessary to create the conditions so that they strive to work in university". Similarly, participant **P4** stressed the high requirements set by the university and low conditions of work:

> The university does not seek to improve the qualifications of academic staff. After all, academics are hired for one or three years. If you are dissatisfied with work conditions, the university can easily replace you with another academic. We are required to publish articles in Scopus, to provide a high-quality education, to engage in research projects, but the university does not allocate sufficient funds and salary **(P4, Academic – Non-STEM).**

Apart from low salary, many participants expressed concern about the lack of institutional facilities and equipment. They pointed out that most universities in Kazakhstan feel a serious shortage of the material and technical base.

> For example, I know many academics who studied abroad, but they cannot develop as a researcher here. Because we do not have appropriate infrastructure, we do not have the necessary laboratories. This problem also makes it difficult to attract international staff **(P14, Head of Department - STEM).**

> I have noticed that in our country secondary schools are in better condition than universities. Many new secondary schools are being built and equipped. This raises question – do students who graduated from such a good school want to study at a university that doesn't have enough facilities and funding? I think if we follow the Western university model, we should also build good campuses **(P10, Academic – STEM).**

Some participants indicated that the lack of funding and equipment led to situations when they had to buy research materials or ask friends and colleagues. They stated that such problems have a long-term negative effect on research results.

> There is a serious deficiency of material and technical base. It is especially difficult for researchers from natural sciences. For example, I have finished methodology and literature review, but I need reagents to complete the experiment. One gramme of the reagent sometimes reaches 350-450 tenge (around 60-70p). The size of my doctoral scholarship does not allow me to buy reagents in the quantity I need. In general, during writing doctoral dissertation we spend about 1 million tenge (around £1700) only on reagents. In addition, I do laboratory work. The lab work needs plant seeds, distilled water. I have to search for the plant seeds. Sometimes I ask my friends to share **(P6, Academic – STEM).**

Overall, the findings indicate the need for strategic resource allocation, improved facilities and competitive salaries to motivate faculty and provide a conducive environment for high-quality research and teaching. Addressing these issues is critical for universities' advancement towards research excellence and enhanced global recognition.

Theme 3. Gaming the rankings

The interview results indicated that, in some cases, academics tend to use a variety of gaming techniques to enhance own research productivity as well as research performance and the ranking position of their university. They mainly referred to barriers discussed above as reasons for gaming.

Gift authorship. Most participants indicated that the pressure to publish imposed by the university and lack of English have led to various negative tendencies including gift authorship. They viewed gift authorship as a way for improving university's research performance and, accordingly, the ranking position. Participants criticised some academics for focusing on quantity of articles rather than quality:

> In many parts of the world, mainly in developing countries, there is a tendency of gift authorship – publishing articles without any contribution. I am totally against it. As a researcher, I do not see any contribution of such articles to research in my country **(P5, Vice-Rector – Non-STEM).**

> Many articles have at least five authors. If you look at the content, then the article is of very low quality. It has become a big business for some academics, who include co-authors without any contribution for a certain fee **(P2, Academic – Non-STEM).**

Some participants explained the cause of gift authorship by external pressures. They

highlighted that such situation mainly stems from the pressure to publish. Participant **P4** stated that they are obliged to publish articles and that they have no choice.

In addition to the pressure to publish, others mentioned the lack of funding as a cause of the spread of gift authorship in their institution. Participant **P10** highlighted that sometimes publication fees in databases like Elsevier cost up to 2,000 euros and it is preferable to split publication expenses among several authors. Similarly, **P6** explained that the high cost of conducting research in STEM areas forces researchers to add gift authors:

> The reason behind the spread of gift authorship is the lack of funding. Otherwise, who will share their own work. In some cases, it takes years to complete the experiment. Laboratory works require a large amount of funding. And we have to include other authors to partly compensate our expenses **(P6, Academic – STEM).**

On the contrary, some participants linked this situation to various performance-based incentive schemes provided by the university. They stressed that extra funding plays a motivating role for academics to increase their research productivity and can have unintended consequences, such as the proliferation of gaming techniques:

> Currently, many research projects are funded by the MoSHE. Depending on the requirements of projects, the researcher should publish at least one paper in international journals annually. In order to meet this requirement and obtain project funding, some academics join others without any contribution **(P14, Head of Department – STEM).**

Several participants noted that the lack of a research culture in institution also contributed to the spread of gift authorship. They emphasised that the university should focus on developing research skills from the undergraduate level. Some participants provided an example, where academics had to join others because of a lack of writing skills.

> For example, we organised a workshop on publishing articles, where we met academics with research experience, academic degrees, research funding, who did not know how to publish articles. We explained the article writing process step by step, from defining research aims to how presenting findings. It can be challenging to publish papers in high-quality journals if you are unfamiliar with their specific requirements, even when you have adequate funding **(P13, Dean – STEM).**

While the majority of non-STEM researchers admitted that they published at least one article without contribution, STEM researchers expressed different attitudes to gift authorship:

> Certainly, there is a tendency of co-authorship. But somehow you have to convince me to include you as a co-author. Why would I do this, there must be some reason.

Secondly, international journals simply do not welcome when there are a lot of co-authors. This is acceptable when your research is conditioned by a global experiment, then, of course, the number of researchers will be even larger, this is normal. But usually, publications have maximum few researchers. Although I was also approached with such a request, I cannot explain this to the foreign partners. Collaboration with someone raises questions, I need to give reasons. It makes no sense to me to risk my research reputation to include someone who actually didn't contribute to the article **(P9, Head of Department – STEM).**

Some participants also shared their thoughts about the future of such negative tendencies. The participant **P5 (Vice-Rector – Non-STEM)** stated that until the university revises the publication requirements, this trend will continue and intensify. On the contrary, several participants pointed out that this negative tendency is a sign of a transition period in HE and is gradually disappearing.

Several participants disclosed that they engaged in gift authorship as a result of feelings of despair, candidly admitting a sense of guilt associated with their actions. Participant **P1** expressed their sentiment by saying, "I believe what we are engaged in is an act of shame. Despite our lack of proficiency in English, we pretend to be competent, deceiving both ourselves and others, and proceed to publish articles in the English language".

To sum up, while some participants attribute the existence of gift authorship to external pressures such as the pressure to publish, financial constraints, and performance-based incentives, others point to a lack of a research culture and necessary skills within HEIs.

Publishing in predatory journals. Most participants stated that the pressure to publish combined with the barriers discussed above are also reasons for the intensification of publishing in predatory journals. They also referred to the research productivity indicators based on the number of published articles and citations as drivers for publishing in predatory journals.

The pressure to publish has led to the situation where doctoral students and academics are now publishing articles in various international journals, including predatory journals. As a result, the quality of research is decreasing **(P2, Academic – Non-STEM).**

Participants stated that publishing in predatory journals has become a big business with a substantial profit for companies focused on researchers from developing countries:

Since there is a demand for articles in international journals in developing countries like ours, there has been an increase in the number of predatory journals. It is obvious that their main goal is to make money, and the research quality of the article is not essential. Even some predatory journals are indexed in Scopus! But you cannot find it tomorrow in Scopus. Such journals also contribute to the devaluation of research. In any case, if you pay the money, they will publish the article without checking its quality. But both sides are happy with it. Predatory journals are making a lot of money, and pseudo-researchers claim to have published articles in international journals **(P17, Head of Department – Non-STEM)**.

This observation demonstrates a concerning trend where predatory journals exploit the academic ambitions and pressures of scholars, capitalising on the pressure to publish. Participant **P13** stressed that as long as there is a demand, predatory journals will persist and many academics will be victims of predatory journals, because they do not know English or cannot write articles that would be accepted in the most prestigious journals.

Some participants commented on the importance of increasing the awareness of academic staff about the general characteristics of predatory journals and maintaining academic standards:

I was shocked when I read that there are around 10,000 predatory journals in the world… If you received a personal invitation from a journal, if the journal offers publication within a short period of time, if you are asked to pay the publication fee prior to submitting the manuscript, then it is most likely a predatory journal **(P17, Head of Department – Non-STEM)**.

Some participants expressed their thoughts that this is a short-term trend:

Publications in predatory journals are easily revealed and do not have a long-term perspective. Today I publish in a predatory journal and in two years everyone will understand that this journal is predatory, and I will simply be ashamed for the rest of my life. There are few researchers that I know who publish in predatory journals, their research career is not serious **(P9, Head of Department – STEM)**.

Several participants shared their experiences in overcoming practices of publishing in predatory journals.

For example, personally, I was certain that it is almost impossible to publish articles in international peer-reviewed journals indexed in Scopus. However, I conducted research, obtained the results with empirical data, and published my paper in the prestigious journal free of charge. It shows that the research culture in Kazakhstan is gradually progressing. Now we aspire to produce high-quality research **(P8, Academic – Non-STEM).**

Thus, the findings highlight the rise in publishing in predatory journals, which is being fuelled by pressure to publish, barriers in publishing, and the reliance on quantitative metrics to gauge research productivity.

Exploiting methodological limitations of GURs. Most participants indicated that strategic aims set by the MoSHE of Kazakhstan put the pressure on HEIs and academics to enhance the research productivity. At the same time, they pointed out that certain methodological weaknesses of GURs allow to improve the performance by using different gaming techniques. They mostly referred to the academic reputation surveys as a subjective factor in evaluating other institutions:

> I believe that universities should participate in GURs. However, some indicators of ranking methodology are not properly addressed. For example, academic reputation and employer reputation surveys. We are often asked to evaluate other universities as an expert. In many cases, universities make informal agreements to assess each other positively. This is not an objective assessment **(P14, Head of Department – STEM).**

> I participated in the evaluation of other universities in the QS survey several times. This is a subjective approach. In my opinion, scientometric indicators can offer better assessment **(P9, Head of Department – STEM).**

> As an expert who participated in the QS surveys, I know that in order to improve the ranking position, in many cases, universities informally agree to provide a positive mutual evaluation **(P16, Academic – Non-STEM).**

> Many universities contact us asking for a positive evaluation. We also try to send invitations to experts who will give us good feedback. However, since the academic survey is anonymous, we do not know how they assessed us. In general, I am not against such a criterion, but I am against its weight in rankings. Such a large weight of the reputational survey raises doubts about the objectivity of the ranking **(P12, Head of Department – Non-STEM).**

Another most discussed ranking indicator was citations. Several participants provided examples of cases when academics improve their citation metrics by mutual agreements. They argued that even citations cannot fully capture the real value of research output:

> Citations can also be manipulated as you can ask your colleagues to cite your articles or, in many cases, the members of the research team cite each other. If we look at our researchers' Google Scholar profiles, we can see that their citations are mostly from local researchers. Foreign researchers rarely quote our articles **(P17, Head of Department – Non-STEM).**

Some participants shared their experience of misreporting the data to the ranking companies.

P15 provided a more detailed example of the misreporting the data regarding international

students and staff:

> Many international students and academics visit our university as part of various academic mobility programmes. They only come for a short period of time, a couple of weeks or months. But we indicate them as our permanent international students and academic staff when we report the data to the ranking agencies **(P15, Dean – Non-STEM)**.

Additionally, many participants criticised the Faculty Student Ratio indicator in the QS WUR as potentially open to gaming:

> Our university is eager to enhance its position in the QS and reports ideal Faculty Student Ratio data. Personally, I cannot say that we have this ratio at our university **(P4, Academic – Non-STEM)**.

Furthermore, participants stressed that despite the fact the gaming the rankings did not actually improve the research performance of their institution, both the government and university leadership ignore the scale of gaming techniques. Overall, participants were generally sceptical about the objectivity of GURs, indicating that the current methodologies permit gaming and manipulation.

Theme 4. Tensions in adopting a new research culture

Findings indicate that although most participants recognise the positive influence of GURs, they expressed some level of resistance to increasing role of GURs in Kazakhstan. Some participants talked about unequal global competition while most participants shared their view on adoption of the Western university model under the influence of GURs.

Unequal competition and unachievable goals. Some participants mentioned about unequal competition with developed economies. Participant **P1** highlighted that universities from developing countries are competing among "monsters", among universities with a 300-year history and countries with a 400-year history of democracy. Others also stressed that the government should set feasible goals for HEIs. The following comments show how the participants are pessimistic about competition with developed countries in GURs:

> I think we should set the right goal. First of all, we have to consider the internal situation. We must ask ourselves whether we are capable of achieving this goal. Neither our ministry nor the university leadership is setting the right strategy (**P14, Head of Department – STEM**).

> I believe that GURs do not take into account the peculiarities of nation-states. They ignore the economic situation, the culture and other features. In general, universities

participating in GURs are very well funded. In the case of developing countries, we are experiencing many economic crises. We do not have sufficient funds to enable our universities to participate and improve their position in GURs **(P15, Dean – Non-STEM).**

Some participants were sceptical about positive influence of GURs. They stressed that the government's expectations were high, but the actual results are minimal. Participant **P14** noted that there had been no improvement in the quality of education. Similarly, several participants highlighted that participation in GURs has not resulted in major changes in the university's research and teaching.

> If we look at the QS or other rankings, our university's position is constantly improving. As I know, rankings are tools to improve the quality of education. However, I do not feel any changes in the quality of educational process **(P1, Head of Department – Non-STEM).**

Several participants criticised GURs for their methodological and other limitations and emphasised the role of national rankings in providing an accurate information and ensuring quality. Participant **P1** stated that Kazakhstani universities should mostly participate in domestic rankings and monitor the quality of education instead of involving in an unequal competition. Thus, participants stressed the need for realistic goals to tackle the unique challenges faced by Kazakhstani universities.

Adoption of the Western university model. Study participants also discussed the role of GURs in disseminating the idea of a Western university model in developing countries. Many participants supported the adoption of the Western university model in the context of Kazakhstan. They also talked about the hallmarks of Western education and the specific features of the national HE system and stated that the experience of developed countries in HE is well-established and will contribute to the development of the HE system in Kazakhstan:

> I do not see any threat in the propagation of the Western university model in developing countries. We have to acknowledge the success of that model and try to improve our HE system **(P5, Vice-Rector – Non-STEM).**

> Moving to a Western university model will certainly have a positive impact on our HE system. The quality of HEIs will gradually improve, and low-quality HEIs will be closed down. Ultimately, the Western university model will contribute to the development of the country and its economy **(P3, Dean – STEM).**

> It is obvious that GURs spread the model of Western education. But the practice has shown that the Western university model is indeed successful. If relatively speaking, another system of HE, for example, the Afghan system of HE was successful, we would

certainly see those successes in practice and we would be eager to adopt it **(P9, Head of Department – STEM).**

According to the participants, the Western university model conveys and disseminates the values such as institutional self-governance and academic liberal knowledge. Moreover, they referred to the advanced experience of the Western universities in research. The excerpts below illustrate various statements about benefits of the Western university model:

> Actually, the first universities were founded in Western Europe. We can learn a lot from Western universities. The Soviet Union had its own eminent model of universities, but in the twenty-first century, they are no longer able to develop research or cooperate with the business. Western universities stand out for their academic honesty, openness, and global cooperation. Most importantly, a Western university model enables to integrate research and business. By implementing the Western university model, we will not lose our national values, and this will not threaten our identity **(P7, Academic – Non-STEM).**

> I believe that Western universities such as Stanford and Harvard exemplify the best model of HEIs. For example, there are hundreds of companies with a turnover of billions and trillions of dollars in Silicon Valley near the Stanford university. We should borrow the best practice of Western universities in the development of research and innovation **(P17, Head of Department – Non-STEM).**

On the other hand, some participants expressed concern apropos the adoption of the Western university model. They mainly viewed this model as a spread of the ideas of western countries in developing countries. They talked about the huge differences in socio-economic features of Western and developing countries and the threat to lose a national identity:

> The Erasmus Mundus program and other foreign-funded programs have a significant impact on the local education system. What is the reason for a foreign country to fund it? Because they distribute their own programmes and methods in developing nations such as Kazakhstan **(P6, Academic – STEM).**

> In the development of our universities, rather than taking into account national characteristics, we are entering the global area through GURs. We should bear in mind that private ranking companies are driven by western policies and ideas and developing countries such as Kazakhstan freely allocate large amounts of money to these ranking companies. In fact, Western countries have made GURs convenient for themselves. They do not enable the independent development of nation-states, especially developing countries. This is a coercive policy. If the university does not rank in GURs, this does not mean that the quality of education at the university is low or that it does not train professionals. But if we look at GURs, these rankings negate the work our universities are doing **(P4, Academic – Non-STEM).**

> The model of these Western universities is mainly Anglo-Saxon. The technologies and methodological foundations they have brought will not produce positive results in our

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country. This is due to the different social and economic features of countries **(P2, Academic – Non-STEM).**

Some participants stressed that Kazakhstani HEIs should focus on unique characteristics of the national HE system. They mainly referred to the legacy of the Soviet HE system. They also criticised western ideologies for placing academics from non-English speaking countries in a disadvantageous position:

> Many universities in developed and developing countries try to imitate the elite universities that placed highly in GURs. However, we need to develop our own unique advantages. That is, while participating in GURs, we should not lose our national characteristics **(P15, Dean – Non-STEM).**

> Our researchers who visited European universities were surprised how much they highly appreciate the Soviet model of HE. European colleagues told them that Scandinavian countries, Japan, and China achieved successful reforms of HE based on the Soviet model while you are copying the programme that we created for third countries **(P6, Academic – STEM).**

Several participants expressed nostalgic sentiments about advances in research and education during the Soviet period and their concerns revolved around the historical changes in the structure of education and research in the post-Soviet era:

> There was a clear distinction between education and research during the Soviet period, with an Academy of Sciences and dedicated research institutes that played an essential part in training specialists and conducting research tied to specific economic sectors. Our current system lacks clarity and we are struggling to adapt to Western models. It may lead to the loss of an entire generation of researchers **(P2, Academic – Non-STEM).**

Overall, the participants viewed the Western university model as a product of the influence of GURs. It is worth noting that even the participants who resisted the idea of the Western university, admitted the western universities' experience in advancing research.

Summary

Based on the analysis of interview data, four dominant themes emerged that relate to various aspects of research aim and research questions: strategic intention of institutions to enhance their ranking position; barriers to research performance; gaming techniques; tensions in adopting a new research culture.

The findings indicated that the university imposed the pressure to publish on academics, provided various performance-based schemes and stimulated own international visibility in

implementing its strategic aim to improve the ranking position. In addition, interview results revealed various barriers to research performance of the university. Participants mainly referred to the limited English language proficiency, tensions between teaching and research, and insufficient funding of research. During interviews participants mentioned various gaming techniques for improving ranking position including gift authorship, publishing in predatory journals and exploiting methodological limitations of GURs. Finally, tensions in adopting a new research culture were discussed in relation to the unequal competition and the adoption of the Western university model.

Chapter 5: Discussion

Introduction

The previous chapter presented the findings of the study. This chapter provides discussion of the key research findings. First, it presents the summary of findings. Then, the findings will be discussed in relation to the theoretical framework. After that, it critically discusses the key research findings in relation to the research questions of the study and the existing literature. Finally, it presents recommendations for policy and practice.

Summary of findings

The findings of this study suggest that the impact of GURs on the national HE system of Kazakhstan is multidimensional and can be broken down into three levels: macro (nation-state), meso (institutional), and micro (individual) levels. At the macro level, the government of Kazakhstan strategically formulates and implements HE policies aimed at enhancing the competitiveness of the national HE system by relying on GURs' indicators and perceive them as instrumental metrics to gauge the effectiveness and competitiveness of national HEIs. At the meso level, the findings indicate that participation in GURs has led to profound changes in institutional life, especially in terms of the prioritisation of the research performance of HEIs in Kazakhstan. In particular, this study reveals that the university's research culture has undergone significant changes with the growing role and influence of performance-based incentives. At the micro level, individual academics and senior management staff mainly recognise the role of GURs in increasing the competitiveness of HEIs of Kazakhstan as well as maintaining the institutional reputation and visibility of the university. Another key finding is that respondents feel responsible for increased research productivity in order to improve the research performance of their institution and recognise the importance of publishing articles. In addition, the findings revealed challenges in managing teaching and research responsibilities, publishing articles in English, facing insufficient funding for research, and how academics tend to game the rankings to overcome the barriers to improving research productivity.

The findings of the study confirmed the growing role of GURs in the HE sector of Kazakhstan. Interview results helped to obtain more nuanced accounts, linked especially to problems that

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arose from participation in GURs. Based on the analysis of interview data, four dominant themes emerged: 1) strategic intention of institutions to enhance their ranking position; 2) barriers to research performance; 3) gaming techniques; 4) tensions in adopting a new research culture. Interview findings indicate that strategic intention of institutions to enhance their ranking position involved a pressure to publish on academics and providing performance-based incentives. Barriers to research performance revealed during interviews included limited English language proficiency, a tension between teaching and research and insufficient funding of research. The "Gaming techniques" theme indicates that academics were inclined to enact various gaming techniques such as gift authorship, publishing in predatory journals and exploiting methodological limitations of GURs in order to raise "an impression" of research productivity. Tensions in adopting a new research culture revealed concerns over unequal competition with developed countries in GURs and a dispute over the adoption of the Western university model.

Findings in relation to the theoretical framework

This study used institutional theory and the theory of academic imperialism as the theoretical framework. DiMaggio and Powell (1983) highlighted the paradox of change in organisations and argued that organisations become increasingly similar as they focus on change. This is especially true in the context of the influence of GURs, as universities are eager to adopt similar strategies and performance measures to raise their ranking position. As discussed earlier, HEIs actively respond to GURs as they affect the institutional reputation and its attractiveness for various stakeholders (Espeland & Sauder, 2016; Hazelkorn, 2014; Shin et al., 2011; Stensaker et al., 2019; Williams et al., 2020). Since institutions act in a competitive environment and focus on increasing their ranking position by improving specific rankings indicators such as citation metrics, they tend to become similar, reinforcing isomorphic tendency. Thus, GURs contribute to the convergence of HE policies. For example, a world class research-intensive university model that proliferated as a result of ranking discourse affected considerably the institutional diversity as many countries started to restructure national HE systems in accordance with ranking metrics (Allen, 2021; Brankovic et al., 2018; Hazelkorn, 2012; Johnes, 2018).

As predicted by institutional theory, institutional isomorphic change occurs by three mechanisms – coercive, normative, and mimetic (DiMaggio & Powell, 1983). This study found that in the context of Kazakhstan, universities prioritised research performance by demanding publishing in international peer-reviewed journals and introducing incentive schemes to stimulate the research productivity of academics in response to government pressure which may be explained as a manifestation of coercive isomorphism. Concurrently, HEIs' excessive focus on research performance over teaching can lead to the homogenisation of HEIs around the world (Hazelkorn, 2012; Johnes, 2018; Shin et al., 2011). Competition for limited resources tends to make HEIs more similar because the same conditions of competition elicit similar responses (DiMaggio & Powell, 1983; Erkkilä, 2014). Additionally, the gaming techniques adopted by academics and HEIs in Kazakhstan in an attempt to improve the research performance and the ranking position of the university and aspirations to establish a positive reputation and prestige of the university can serve as a reactivity to GURs and impression management according to Bastedo and Bowman (2011), which are considered as strategies that can lead to the homogenisation of HEIs under the influence of GURs. Therefore, overall, the findings of this study suggest that an excessive reliance on indicators of GURs in Kazakhstan can result in an isomorphic tendency in HE which complements the assertions of institutional theory.

The theory of academic imperialism in this study assisted in conceptualising the growing hegemony of GURs in the HE systems, especially in developing countries. The findings of this study reveal that participation in GURs has led to substantive changes in institutional culture in the sampled institution primarily through an increased focus on research performance. It can be seen as a manifestation of academic dependency on Western ideas as one of the tenets of the theory of academic imperialism. Additionally, the findings indicated an increased pressure to publish articles in English-language peer-reviewed journals indexed in prestigious databases such as Scopus and Web of Science and the importance of publications for promotion and tenure. It indicates the claim of the theory of academic imperialism on the growing role of English for academics in developing countries as well as the disadvantaged position of the academics from non-English speaking countries compared to their counterparts in English-speaking countries. Finally, the growing role of GURs in governmental initiatives in the context of Kazakhstan also can serve as a support of the theory of academic

imperialism about academic dependency on western ideas. Thus, the overall findings of the study supported the assertions of the theory of academic imperialism. The following section will present a discussion of the findings of the study.

Discussion of key findings

This section provides a brief summary of the key findings presented in Chapter 4 in accordance with the research questions. The over-arching research question that guided the study is: **How has the policy commitment to GURs affected HEIs in Kazakhstan?** The first sub-question is**: How do academics and senior university management staff perceive and react to the utilisation of GURs within their institution?** This question aimed to examine the perceptions of GURs among academic and senior management staff in the context of Kazakhstan. In addition, the focus of this question was whether GURs are normalised or resisted aspect of institutional life in HEIs of Kazakhstan. In contrast to previous studies, in which academic staff and senior management expressed opposing views on the impact of GURs, especially in terms of the pressure to publish (Allen, 2021b; Kwiek, 2016), the present study found no notable difference in perception between the two participants groups. In particular, both academic staff and senior management acknowledged that participation in GURs had resulted in a shift in institutional culture that prioritised research performance and increased the pressure to publish. Nevertheless, it is worth to acknowledge that treating academics and senior management as comparable entities may not accurately reflect the diversity in their roles, responsibilities, and power dynamics and it can be considered as one of the limitations of this study.

Overall, the findings for this research question were twofold: on one hand, participants admitted the role of GURs in improving the international visibility and reputation of their institution; on the other hand, they conceded that there is a tendency for gaming rankings in order to enhance their own research productivity as well as research performance and the ranking position of their university. As findings indicate, academics tend to use a variety of gaming techniques including the gift authorship, publishing in predatory journals and exploiting methodological limitations of GURs.

International visibility and reputation of national universities

In Kazakhstan, enhancing the competitiveness and international visibility of national universities forms the cornerstone of HE transformation, as evident in key strategic documents such as the "Kazakhstan-2050" Strategy, the Concept for the development of higher education and science in the Republic of Kazakhstan for 2023-2029, and the State Programme for the development of education and science of the Republic of Kazakhstan for 2020-2025. For example, the State programme has established a goal to include at least 3 national universities in the QS WUR top 200 by 2025 (currently – 1 university). Meanwhile, the Concept for the development of higher education and science in the Republic of Kazakhstan for 2023-2029 set the target to include at least 15 national universities in the QS WUR top 700 by 2029 (currently – 9 universities). Additionally, the target indicators outlined in the Concept for the development of higher education and science in the Republic of Kazakhstan for 2023-2029 encompass several strategic goals: increasing the share of international students in the HE system (2023 - 7.1%, 2024 - 7.5%, 2025 - 8%, 2026 - 8.2%, 2027 - 8.5%, 2028 - 9%, 2029 - 10%); increasing the share of universities implementing international educational programs, academic exchanges with foreign partner universities (2023 - 40%, 2024 - 45%, 2025 – 50%, 2026 – 55%, 2027 – 60%, 2028 – 65%, 2029 – 70%); establishing at least 12 branches of foreign universities; attracting foreign staff from leading universities with publications in highly rated research journals. These measures reflect the strategic objectives aimed at fostering internationalisation, a sustained commitment of the government of Kazakhstan to long-term improvement and recognition of national universities on the global stage.

According to interview results, most study participants believe that participation in GURs has enhanced their institution's international visibility and reputation. In particular, findings show that one of the positive implications of GURs is growth in academic collaboration with foreign HEIs and increased academic mobility of faculty and students. These findings complement previous studies that found the positive influence of GURs on enhanced international visibility and reputation of universities (Bowman & Bastedo, 2009, 2011; Hazelkorn, 2014, 2015; Tapper & Filippakou, 2009). Hazelkorn (2014, p. 18) posits that "inclusion of even one HEI in a ranking can grant national and international visibility and help build reputation, especially

for emerging economies and lower ranked institutions". Likewise, Shreeve (2020) examined the influence of GURs in Taiwan and found that the government's ambitions to improve ranking positions of institutions have resulted in a positive shift in research output and the reputation of several institutions. Thus, this finding demonstrates that GURs play a crucial role in shaping the global HE sector and influencing the reputation of universities.

In fact, the concept of reputation in HE is contested and often used as a synonym for prestige. In this regard, Blackmore (2018) argues that the fact that term "prestige' in HE is interchangeable with reputation, standing and status is not always correct. Blackmore (2018) highlights that it is important to distinguish between prestige and reputation, as this is key to understanding the impact of policy on HEIs. Indeed, many authors stress the tenuous relationship between prestige and quality (Tierney & Lanford, 2016). While it is not easy to precisely define the concept of reputation in HE (Blackmore, 2016; O'Loughlin et al., 2015), the findings of the present study suggest that the reputation of HEIs in Kazakhstan to some extent can be measured through GURs. This demonstrates the potency of GURs in ascribing a value and a sense of what counts and what does not count despite their numerous and obvious methodological flaws, reinforcing the claim of the theory of academic imperialism about the dependency of HEIs of developing countries on Western ideas.

Many authors argue that HEIs tend to use their ranking position as a brand and marketing tool (Overton-De Klerk & Sienaert, 2016; Shin & Shin, 2020; Welch & Li, 2021). Similarly, participants in the present study stated that the university constantly signals its ranking position to different stakeholders with the aim to attract more funding, international staff and students. Moreover, HEIs tend to use ranking position as a means of ensuring staff retention, a sense of pride in the place of work and collective identity. In fact, institutional reputation and brand are critical to university's success in the competitive global HE market (Blackmore, 2016; Kinzelbach et al., 2021; Wolf & Jenkins, 2018). For instance, the university's ranking position and its reputation play an overriding role in student decision-making in respect of their university and course selection (Bowman & Bastedo, 2009; Fisher, 2022; Robertson, 2022; Soysal et al., 2022). Thus, the findings of this study suggest that GURs are increasingly becoming a powerful indicator of international standing and reputation in the context of Kazakhstan. This finding has important implications since it indicates the extent to which an emerging HE sector is in thrall to the GURs and organising itself in accordance with

the performance demands of developed HE sectors. In other words, the findings suggest that the sampled institution is imitating a Western university model and is being colonised therefore by the same performative logic. In this sense, GURs are associated with a new form of colonialism of developing countries in the form of "soft power" (Lo, 2011; Stack, 2021b; Winkler & Nye, 2005) which is driven by reputational race. That said, an excessive focus on reputation and overreliance on GURs can further intensify hegemony of metric power in HE and the image of universities as "global institutions governed by numbers" (Collins & Park, 2016; Feldman & Sandoval, 2018; Huisman & Stensaker, 2022), which has been observed in the present study, where the sampled institution prioritised performative measurements in achieving its aim to improve the ranking position.

To sum up, the findings of this study suggest that GURs are understood by both academic and senior management staff to significantly enhance the reputation and international visibility of HEIs in Kazakhstan. It indicates the potency of GURs in determining and granting the reputation. Furthermore, it shows the power of GURs in influencing the behaviour of universities in less developed HE systems as well as the universal power of GURs to guide conceptualisation of what is essential for HEIs and the direction of strategic management.

Gaming the rankings

This study reveals that academics and HEIs are inclined to use various gaming techniques to enhance the university's research performance and to project an image of research productivity. This finding supports the assertions of the institutional theory and can serve as a manifestation of the reactivity of HEIs to GURs (Bastedo & Bowman, 2011).

Gift authorship, publishing in predatory journals and exploiting methodological limitations of GURs were the most prevalent gaming techniques, mentioned by study participants, supporting findings from studies by Espeland and Sauder (2007) and Oravec (2020), who found that gaming behaviour of academics is intensifying in response to rankings' influence. Oravec (2020) argues that overreliance on metrics and pressure to publish fostered gaming practices such as publishing in predatory journals, coercive citation, ghostwriting and H-index manipulation. Such findings suggest that scientometric indicators imposed by GURs and subsequent pressure to publish by the government and employing institution can intensify

various forms of gaming. In this respect, Espeland (2020, p.116) argues that "the scope and variety of gaming strategies adopted by universities trying to cultivate higher rankings is as vast as it is dispiriting". Huisman and Stensaker (2022) also state that the growing power of GURs can result in institutional attempts to succeed in rankings by employing practices of recruiting international students, hiring Nobel prize winners and imposing the pressure to publish on academic staff as a response to specific ranking indicators.

Some authors warn about negative implications of various gaming strategies and even refer to self-citing as a gaming technique that can lead to the misrepresentation of research performance (Baccini et al., 2019; Dowling, 2014; Szomszor et al., 2020). Johnes (2018) argues that gaming can mislead stakeholders including students, academics, and governments, who rely on rankings for institutional selection, job applications, and funding. Dowling (2014) links this negative tendency to the massive role of citations in the career advancement of academics. In the current study, participants also referred to the importance of citations and *h*-index, in particular for promotion and research funding. The main issue with *h*-index is that it also opens to gaming and can be manipulated by self-citations and mutual citations with colleagues (Gruber, 2014).

There are several possible reasons that explain the gaming behaviour of faculty. Sauder and Espeland (2009, p.76) define gaming as "cynical efforts to manipulate the rankings data without addressing the underlying condition that is the target of measurement" and interpret gaming strategies as a reaction to quantitative measurements of performance upon which academic careers are built and sustained. Many authors explain the causes of scientific misconduct and gaming by the pressure to publish and the significance of publications for appointments and promotion (Aboubichr & Conway, 2021; Aprile et al., 2021; Yu et al., 2021). Similarly, in the current study, participants shared their concern over the pressure to publish that imposed by national HE policy and their institution. Additionally, as the findings of the present study indicate, limited English language proficiency and insufficient funding of research can exacerbate gaming the rankings.

As evidenced by the findings, one of the common gaming techniques is gift authorship, which contributes substantially to increasing the research productivity of academics in Kazakhstan. Gift authorship implies the practice of granting co-authorship to a person who did not contribute to the study (Biagioli, 2022; Bülow & Helgesson, 2018). Although only several

participants admitted that they published articles without contribution, all interviewees stressed that this negative tendency is becoming prevalent in academia in Kazakhstan. This finding resonates with previous studies that focused on research fraud and scientific misconduct (Reisig et al., 2020; Yu et al., 2021). In their study of research fraud in research-intensive universities in the USA, Reisig et al. (2020) found that gift authorship was more common than other types of research fraud. The findings of the current study suggest that the reason for such negative phenomena lies in the fact that publications are the main way to evaluate the research performance of both individual academics and universities.

Publishing in predatory journals was another prevalent gaming technique revealed in this study. This finding supports the results of the study by Kuzhabekova and Ruby (2018), who conducted survey at 6 HEIs of Kazakhstan and found that over half of the respondents referred to publishing in predatory journals as a common response to the pressure to publish. Predatory journals tend to be characterised by their absence of rigorous peer review, low publishing standards, and a focus on profit instead of quality research. Publishing in predatory journals can have several negative consequences, such as undermining the integrity of academic publishing. Furthermore, it highlights the significance of a more comprehensive and nuanced approach to evaluating researchers beyond quantitative metrics.

Another prevalent gaming technique mentioned by interviewees is manipulation of the methodological limitations of GURs. As discussed earlier, academic reputation surveys are one of the most criticised indicators of GURs as they rely on subjective judgements of academics, when the participants rate the HEIs based not on their actual performance but own opinion, and also can be easily gamed by HEIs (Bowman & Bastedo, 2011; Hazelkorn, 2015; Selten et al., 2020). For instance, the QS Academic reputation survey asks academics to give their opinion about research excellence of top domestic and international institutions and to nominate up to 10 domestic and up to 30 international HEIs that they think are producing the top research in their faculty area. Meanwhile, the respondents tend to give a higher score to famous and prestigious universities in reputational surveys (Bowman & Bastedo, 2011; Marginson, 2014; Safón & Docampo, 2020). A common argument against these indicators is that reputation surveys do not always actually reflect the performance of universities and can affect the accuracy of GURs, while the weight of academic reputation survey is 40% in the QS WUR and 33% in the THE WUR. In other words, the most prestigious

GURs in the world are mainly predicated on subjective judgement and take their cue from anecdotal and not empirical data. Thus, academic reputation surveys often fail to represent the real performance of HEIs. Sorz et al. (2015) found that academic reputation surveys contribute to inconsistent fluctuations in rankings that have no actual correspondence to university performance. Barron (2022) argues that even experienced academics cannot properly judge other HEIs. The author interviewed academics who participated as experts in the THE WUR Reputation survey and found that the participants could not justify the rationale for their choice of top universities. Furthermore, in the current study, some interviewees admitted that in many cases university leadership contact other institutions and ask to give positive feedback in reputation surveys and in return they also rate these institutions positively. This finding shows how academics and HEIs quickly learn to game systems that are meant to track performance and to promote accountability. This also implies that some methodological indicators of the GURS are potentially open to gaming and manipulation and there is need for more holistic indicators or data focused indicators to mitigate against such distortive effects.

Although Kazakhstani HEIs considerably enhanced their ranking positions in the QS WUR, a closer look at how the ranking performance of the one of the leading universities in Kazakhstan changed over the past ten years (Table 2) shows that it mainly improved the reputational indicators such as academic reputation (from 39.3 to 49.1) and employer reputation (from 35.6 to 76.9) while research output indicator such as citations per faculty remains very low (from 1.1 to 1.3 out of 100). It shows the paradox of influence of GURs in Kazakhstani context, where academics increasingly feel pressure to publish in international journals whereas the research output of the universities, especially citations per faculty has not been improved. In addition, the table indicates that the Faculty Student Ratio, which is considered as a proxy of the quality of teaching, was the highest indicator throughout 10 years (99.9; 99.3; 98,3).

Ranking criteria /Year	2013	2018	2023
Ranking position	299	220	150
Overall	40.2	41.3	50.8
Academic Reputation	39.3	33.4	49.1

Employer Reputation	35.6	48.9	76.9
Faculty Student Ratio	99.9	99.3	98.3
Citations per Faculty	1.1	1.2	1.3
International Faculty Ratio	26.8	34.4	30.5
International Students Ratio	18.6	23	34.6

Table 2. **Performance of the leading university of Kazakhstan in the QS WUR in 2013-2023**

In order to reveal possible differences in the performance of other HEIs of Kazakhstan, the QS data on the top 7 HEIs of Kazakhstan that ranked in the QS WUR 2023 is presented in Table 3.

University	Ranking position	Academic Reputation	Employer Reputation	FSR	Citations per Faculty	IFR	ISR
University A	150	49.1	76.9	98.3	1.3	30.5	34.6
University B	299	25.1	37.8	98.8	1.4	48.8	7
University C	405	18.7	28.9	79.7	1.3	22.8	4.1
University D	443	11.8	13.7	90.5	1	15	21.3
University E	481	14.7	13.8	73.5	1.1	29.2	19.9
University F	511-520	19.4	17.1	60.1	1.1	37.7	3.2
University G	561-570	4.6	3.4	90.5	1	21	6.1

Table 3. Performance of HEIs of Kazakhstan in the QS WUR 2023

Note: **FSR** – Faculty Student Ratio; **IFR** – International Faculty Ratio; **ISR** – International Students Ratio

Table 3 demonstrates that the Faculty Student Ratio was the highest indicator while citations per faculty was the lowest indicator (around 1-1.4) in all presented HEIs in Kazakhstan. Since according to the QS WUR, the Faculty Student Ratio indicator serves as a proxy measure for

the learning and teaching at HEIs, this finding suggests that HEIs in Kazakhstan remain heavily teaching-oriented while the research performance of these institutions is very low. Another question of concern is the reliability of the data regarding the Faculty Student Ratio since the literature indicated that it is one of the indicators that are potentially vulnerable to gaming and manipulation of the rankings. Even the Ivy League's Columbia university has been caught manipulating rankings by providing outdated and misleading data to the US News Ranking (Chada, 2022). Along with other misleading data, the university reported that the Faculty Student Ratio is 6:1 while in reality, it was close to 11:1. As a result of this scandal, it dropped from 2nd place to 18 in the US News Ranking. In the case of Kazakhstan, it is almost impossible to directly accuse HEIs on manipulating the Faculty Student Ratio due to the lack of institutional data and some political characteristics of the country. However, the QS WUR data provided in Table 3 indicate a clear discrepancy between indicators which can give some clues.

Furthermore, these findings imply that the government and HEIs in Kazakhstan tend to choose "convenient" GURs to participate in that they can potentially succeed. For example, 16 HEIs of Kazakhstan are ranked in the QS WUR, 4 HEIs in the THE WUR and no university in Kazakhstan is ranked in the ARWU. As the literature showed, the ARWU is known for its strict methodological indicators including the presence of Nobel Prise laureates as a staff and alumni as a proxy for quality of education and faculty, and papers published in Nature and Science as a proxy for research output. Obviously, it is impossible to manipulate the data regarding the Nobel Prise laureates or papers published in Nature and Science while indicators such as Faculty Student Ratio in the QS WUR can be easily manipulated. For developing countries such as Kazakhstan, it is unattainable to participate in the ARWU and to legitimise national HEIs on a global scale they choose certain GURs, where they can potentially succeed. That is why national policy documents in Kazakhstan clearly indicate participation in the QS WUR as a main strategic aim.

Overall, it could be argued that GURs not only created new imaginaries of reputation but also shaped institutional behaviour in Kazakhstan. This finding has important implications because it suggests that as long as GURs remain a powerful instrument of defining the "excellence" in HE, academics and HEIs in Kazakhstan will continue to employ gaming techniques to enhance the ranking position of the university. In particular, these findings suggest that academics

manipulate publishing requirements in order to raise the impression of research productivity in the context where measurable output plays a dominant role. Moreover, these findings imply that a growing emphasis on GURs can generate "measurable" universities, which satisfy certain ranking criteria but lack academic quality.

The second sub-question is: **How have GURs influenced the research performance and productivity of the university?** This study revealed that participation in GURs has resulted in greater focus on research performance yet without necessarily leading to improved research performance and accordingly reveals weak causality involving GURs and research productivity. The results indicate that the focus on improving research performance has led to the intensification of publication pressure.

The pressure to publish

Kazakhstan has been devoted to improving its HE system, partly through building research capacity (Jumakulov et al., 2019; Lee & Kuzhabekova, 2019). The key strategic documents of Kazakhstan consistently stress the importance of improving research by augmenting the quantity of articles in international prestigious databases and journals. For instance, the target indicators of the Concept for the development of higher education and science in the Republic of Kazakhstan for 2023-2029 aimed at enhancing Kazakhstan's position in the InCites country ranking by the total number of articles in indexed scientific journals from 73rd place in 2023 to 65th place 2029. At the institutional level, individual HEIs in Kazakhstan have specific policies and strategies to promote research and publications including incentives for faculty to publish in reputable journals and funding for research projects. Currently, Kazakhstan surpasses other Central Asian countries in both the quantity and quality of published articles, including articles published in Q1 journals (Jonbekova, 2020; Lovakov et al., 2022; Lovakov & Yudkevich, 2021; Ovezmyradov, 2023). This achievement is a testament to the country's dedication to research excellence. However, it entails the pressure to publish as an integral aspect of institutional culture.

One of the codes that repeatedly emerged from the interviews was the pressure for academics to publish. It is not surprising given that the methodology of most GURs mainly focus on research outputs and HEIs around the world are increasingly pushing their faculty to produce more research (Hazelkorn, 2015; Post et al., 2021; Vidal & Ferreira, 2020; L. Yang et

al., 2021). Driven by GURs, Kazakhstani HEIs put even greater emphasis on the importance of publishing by gradually turning the articles published in international peer-reviewed journals into a decisive factor in the promotion and retention of academic staff. However, it had little impact on the research performance of the university. It shows the potential misguidedness and lack of success in stimulating better research cultures in HEIs of Kazakhstan. One might wonder how Kazakhstani HEIs have enhanced their ranking position without improving their research performance and the answer lies in the potential openness of GURs to manipulation. Although major GURs prioritise the research performance of universities, the way how they assess it makes it possible to manipulate and game these systems. As discussed earlier, the weight of academic reputation survey is 40% in the QS WUR and 33% in the THE WUR and Table 2 indicated that the leading university in Kazakhstan considerably improved its position in the QS WUR (from 299 in 2013 to 150 in 2023) thanks to reputation surveys. According to the QS WUR, in the Academic Reputation survey "academics are asked to nominate up to 10 institutions from their country/territory of knowledge and up to 30 institutions outside of their country/territory of knowledge that they think are producing the top research in their faculty area" (QS WUR, 2023). In the meantime, citations per faculty indicator in the QS WUR, which potentially can indicate the research output of the university weighs only 20% compared to the academic reputation survey which is 40%. This finding demonstrates the arbitrariness of the ranking systems, where research performance of HEIs is largely assessed based on subjective opinion. Nonetheless, following the widespread belief that GURs prioritise research output and citations, which is true, HEIs in Kazakhstan are feeling a pressure to produce more research.

It became evident from the interviews that publishing articles becomes essential for promotion in academia, supervision of doctoral and master students and securing research funding, and the requirements to publish were strengthened as their institution focused on improving its ranking position in GURs. This finding is in line with previous studies that highlighted the influence of GURs on "publish or perish" culture in academia (Allen, 2021b; Dowling, 2014; Feng et al., 2013; Y. T. Huang & Xu, 2020; van Dalen, 2021). As Barbour (2015, p.1225) argues, "Publications have always been the currency of academia – the key to tenure, grant renewal and promotion". In their analysis of the impact of national research policy on scholarly publication in China, Feng et al. (2013) interviewed journal editors and scholars and

found that universities tend to recruit Western-trained academics in order to increase the number of publications and to improve the ranking position of the university. Kazakhstani HEIs went further in this direction and as the findings of the present study indicate there is a tendency to appoint Western-trained academics who have publications in prestigious international journals in English as rectors and vice-rectors of national and regional universities, despite their young age and lack of experience. It shows how the government and HEIs in Kazakhstan highly prioritise publishing in an attempt to enhance the ranking position.

The results of the present study also suggest that the pressure to publish can encourage research manipulation, misconduct, and gaming techniques, which discussed earlier. Participants explained the spread of gift authorship and publishing in predatory journals caused by a pressure to publish. This finding complements a body of research on the negative implications of the publish or perish culture (Biagioli & Lippman, 2020; Kurambayev & Freedman, 2021; Paruzel-Czachura et al., 2021; van Dalen & Henkens, 2012). Biagioli and Lippman (2020) argue that excessive reliance on metrics in evaluation of research performance has resulted in new forms of academic fraud and misconduct. Similarly, Chirico and Bramstedt (2021) state that a pressure to publish in high impact factor journals coupled with the lack of funding can facilitate gift authorship which they call "authorship commerce". As discussed earlier, it implies the practice of granting or selling co-authorship to a person who did not contribute to the study. They warn that it is hard to detect the authorship commerce and they suggest various preventive measures including ethical publication incentives, lower publishing fees, and fee discounts.

Unlike other studies, this study revealed that the pressure to publish was imposed not only on the tenured academic staff of the university but also on doctoral candidates. Lei (2021) explains this trend through neoliberal ideologies and argues that requirements to publish exemplify a managerial accountability regime. As discussed in the Literature Review chapter, the pressure to publish mainly stems from universities' intention to pursue research excellence in order to raise their ranking position and reputation. In this regard, Watermeyer and Olssen (2016) argue that in academia's hyper competitive and performative work culture, designations of "excellence" as a positional good becomes the priority of many HEIs. In the context of Kazakhstan, as per the Rules for awarding degrees since March 31, 2011, doctoral

candidates are required to publish a minimum of two articles in international peer-reviewed journals indexed in the Web of Science and Scopus databases. This requirement stems from the wider educational reforms initiated after joining the Bologna process in 2010 (Agbo et al., 2023; Lodhi & Ilyassova-Schoenfeld, 2022). In fact, the HE sector of Kazakhstan has undergone active reforms and modernisations over 30 years of independence and the evolution of HE reforms in Kazakhstan reflects a strategic shift towards modernisation and alignment with global educational practices. However, Kazakhstan has largely resorted to policy borrowing from developed nations by replicating their social, cultural, and structural characteristics without properly considering the local socio-cultural context and this has resulted in difficulties in effectively implementing some borrowed HE policies (Agbo et al., 2023; Kuzhabekova et al., 2018). According to Kuzhabekova et al. (2018), the process of international policy transfer in HE of Kazakhstan has undergone various stages: 1) passive policy borrowing: 2) haphazard policy transfer; 3) institutionalized transfer of traded international policies. In this regard, Agbo et al. (2023) stress the challenges and potential pitfalls associated with Kazakhstan's educational policy borrowing, highlighting the necessity of striking a balance in HE reform between maintaining national identity and cultural context and being globally competitive.

Another important finding indicates that managerial demands for increased research productivity have mostly been met with compliance by academics in the sampled institution and that they feel responsible for improving the research performance of their university. Even those who resist the pressure to publish have admitted that publishing articles become more rewarding than teaching. It shows how neoliberal self-responsibilisation and professional anxiety are embedded and are normalised features of academics' professional praxis (Aprile et al., 2021; Feldman & Sandoval, 2018). In this regard, Shore (2017) argues that responsibilastion is linked to audit culture and the politics of accountability and it has become a defining feature of countries that embrace neoliberal policy agendas. In other words, neoliberalism reinforces a sense of personal responsibility. This finding has important implications because it suggests that neoliberal ideas influenced not only HE policy in Kazakhstan but also academics identities and they consciously and unconsciously prioritise publication metrics as a measure of success. However, it is worth noting that although study participants recognised the responsibility to produce more publications, various barriers such

as limited English language proficiency, which will be discussed below, are serious obstacles for them. In this regard, stimulating a better research culture in HEIs of Kazakhstan can be an optimal solution to overcome the problem with improving the research performance. This could include identifying possible gaps in the training of academic staff, and the provision and promotion of advisory and mentoring services aimed at developing critical writing skills, methodological framework of research. The results also demonstrate that academic staff are unfamiliar with the requirements of international peer-reviewed journals. Thus, holding workshops on publishing in peer-reviewed journals may help to advance the research culture in HEIs of Kazakhstan.

Overall, these findings implies that GURs popularise a certain brand of excellence, which can be assessed according to certain criteria. In addition, findings suggest that the pressure to publish will intensify in the context, where citations and journal impact factors considered as proxies of research quality.

The growing dominance of English

Interview results suggest that a lack of English language proficiency is one of the key barriers to improving the research performance of Kazakhstani academic researchers under new requirements of publishing in English. It appears one of the main concerns for academic staff in Kazakhstan. In this study, academic and senior management staff talked about the increased burden of publishing in English as a second language. This finding supports the assertion of the theory of academic imperialism on the growing dominance of English in the HE systems of developing countries.

In fact, many authors highlight that the focus on research in universities as an influence of GURs has effectively legitimised the language policy of publishing in English and as a result GURs promotes English language dominance in academia (Curry & Lillis, 2018; Feng et al., 2013). Curry and Lillis (2018, p.1) argue that "for scholars around the world, including in contexts where English is not the daily medium of communication, publishing in English can bring both benefits and detriments". In this study, while interviewees recognised the opportunities of publishing in English, they also referred to its downsides including the high financial cost of publishing in English. As the findings of the present study show, many academics publish articles in predatory journals for a fixed fee, around 1000-2000 USD, a cost

which is divided among co-authors. Additionally, in some cases, the open access fee can reach up to 2000 USD. Thus, the language barrier coupled with the financial cost of publishing in English appears to be one of the main problems for academics in Kazakhstan in publishing articles. It shows the paradox of GURs in fostering poor quality research though they aimed at external quality assessment of HEIs.

The problem with publishing in English is common to all non-English speaking countries that aim to increase the competitiveness of their universities in GURs (Chien, 2019; Stockemer & Wigginton, 2019; Zheng & Guo, 2019). Post et al. (2021) found that the government of China highly prioritises publishing in English and salary bonuses are provided for indexed journal articles in English. According to Fejes and Nylander (2017, p.22), "in the new publication game, non-Anglophone scholars are potentially in an operational disadvantage in relation to their colleagues with English-speaking as their first language". For example, Chien (2019) examined the perceptions and experience of publishing in English of Taiwanese researchers and found that although participants valued benefits of publishing in English for academic career, most of them experienced a problem of writing in English and shared concerns about publishing in English as non-native speakers. Similar to these findings, participants in the current study reported difficulties in publishing in English and that publishing in English becomes more rewarding than publishing in a local language. Most importantly, the number of articles published in international peer-reviewed journals and citations is crucial for promotion and securing research grants.

Official acts of the MoSHE of Kazakhstan specify the requirements of publishing in international peer-reviewed journals to get a PhD degree or professor degree in Kazakhstan. For example, according to the Order of the Minister of Education and Science of the Republic of Kazakhstan dated March 31, 2011 No. 128 On approval of the rules for conferring academic degrees (associate professor, professor), the academic degree of professor is awarded to applicants in the presence of at least 42 articles after defending a dissertation, including 30 in research journals recommended by the authorised body and 5 research articles in international peer-reviewed research journals. This order clearly formulates the requirements for publishing in international peer-reviewed journals: "International peer-reviewed research journals include journals that are included in the 1st, 2nd and 3rd quartile according to Clarivate Analytics' Journal Citation Reports or have a CiteScore percentile index

of at least 35 in the Scopus database for the research field corresponding to the specialty of the applicant". Thus, HE policy in Kazakhstan highly prioritises the publishing in English in international peer-reviewed journals and main possible explanation for this is the ambition of the government and institutions to build a competitive HE system according to GURs.

To sum up, publishing in prestigious English-language journals requires academics from Kazakhstan as a developing country to increasingly adopt Western conventions of academic publishing. This trend supports the claim of the theory of academic imperialism about the unequal position of academics from the First world and Third world.

Tension between teaching and research

Interview results show that as the university sets targets to improve its ranking position and emphasises research excellence, participants experienced problems with handling teaching and research and other responsibilities under an intensive performance culture. Interviewees highlighted that although their institution prioritised research output, the faculty's traditional role is still heavily focused on teaching. It indicates how Kazakhstani academics struggle to manage competing institutional demands for excellence and apparent imbalance between research and teaching.

Participants stressed that the research production is becoming more rewarding than teaching and they also shared concern of not being able to get promotion or tenure by not publishing in high impact journals. This finding complements previous studies that examined the effect of research performance policies on teaching (Lai et al., 2014; Mathieson, 2019; Yang et al., 2021). Lai et al. (2014) argue that new university employment reform in China that aimed to improve international reputation of institutions stressed the importance of publishing and it created tensions between teaching and research. Yang et al. (2021) examined the influence of performative culture and research emphasis on Chinese academics' professional identity and emotions and found that neoliberal practices and performative culture have caused identity tensions for academics. The authors claimed that this issue could be resolved through providing support from professionals and introducing training programs that aims to develop teaching and academic skills. Similarly, Lucas (2006) found that priorities shifted towards research even in those departments that had previously been more teaching-oriented and as

a result, academics struggle over their academic and research identity and valuing their academic and research work.

In fact, the prioritisation of the research performance over the educational mission of HEIs is widely discussed in the literature (Marginson & van der Wende, 2007; Shattock, 2017). This tendency can be explained by the importance attributed to GURs by universities across the globe. Additionally, most performance evaluation regimes, including GURs fail to appreciate research and teaching coming together and tend to assess them separately, by giving more weight to research since there are more metric outcomes in research compared to teaching. As a result, in order to survive under an intensive performance culture, academics need to be efficient producers of research that features in prestigious and high-ranking international journals. This argument yielded from the findings of this study and supported by literature, implies that excessive focus on research performance of the institution marginalises and negatively affects the quality of teaching and there should be introduced an optimal balance between teaching and research. However, there is a need to be cognisant of the positive impact of research-informed teaching when academics disseminate their research results and effectively combine research with teaching. While there are plenty of critiques of the publish or perish culture, the importance of research to HEIs of Kazakhstan cannot be overemphasised. Most importantly, research-informed teaching can contribute to more effective teaching and learning strategies (Healey, 2005; Mali & Lim, 2022). For example, Mali and Lim (2022) compared academic performance and perceptions of two student groups, one of which was taught through traditional accounting instruction while another through research-informed teaching and found that perceptions and performance of two groups were equivalent at the start of semester but varied significantly at the end of semester as the students in research-informed group demonstrated higher performance. Similarly, Visser-Wijnveen et al. (2010) examined ideal research-teaching nexus amongst 30 academics and found five profiles of research-teaching nexus: teach research results; make research known; show what it means to be a researcher; help to conduct research; and provide research experience. Thus, research-informed teaching can offer an alternative solution in the problem of imbalance between research and teaching.

In the case of Kazakhstan, research was traditionally separated from teaching (Kuzhabekova & Ruby, 2018). It is a legacy of the Soviet system of HE, where research was exclusively

conducted at specialised research institutes in the National Academy of Science while HEIs were mostly teaching-oriented. Until now, such research institutes exist under the MoSHE and the National Academy of Sciences. Moreover, recently the role and competence of the National Academy of Sciences have been strengthened with the granting of state status. However, as noted earlier, HE policy in Kazakhstan highly prioritises the establishment and development of research-intensive universities. Official documents of the MoSHE of Kazakhstan indicate that currently three HEIs in Kazakhstan, represented in GURs, are being transformed into research universities: Al-Farabi Kazakh National University, L.N. Gumilyov Eurasian National University and Auezov South Kazakhstan University (MoSHE, 2022). However, as the results of this study show, HEIs in Kazakhstan are experiencing a serious problem with combining research and teaching. This is also an additional explanation for the poor research performance of HEIs in Kazakhstan.

Insufficient funding of research

In the context of Kazakhstan, HE funding is multifaceted, comprising state grants, tuition fees, and various support mechanisms, with continuous endeavours to address financial barriers and improve accessibility (Ait Si Mhamed et al., 2021; Kasa et al., 2020). Public funding allocation differs depending on the university's status. State grants serve as the primary way to allocate public funds to universities, distributed predominantly through a merit-based system. Additionally, the HE system of Kazakhstan heavily relies on tuition revenue, with 70-80% of students paying tuition (Ait Si Mhamed et al., 2021; OECD, 2017). State spending on education in 2022 increased by almost 2 times compared to 2010 levels, amounting to 4.5 trillion tenge (9.7 billion USD), with 387 billion tenge (838 million USD) allocated to the HE sector.

Research funding in Kazakhstan is provided from the state budget, as well as from other sources, and is carried out in the following forms: 1) basic funding; 2) grant funding; 3) program-targeted funding; 4) funding of research organisations carrying out fundamental research (article 24, Law on Science, 18 February 2011). Basic funding for research from the republican budget in 2021-2023 almost doubled and amounted to 71.6 billion tenge (155 million USD) in 2021, 70.2 billion tenge (152 million USD) in 2022, 149.4 billion tenge (323 million USD) in 2023 (Concept for the Development of Higher Education and Science in the

Republic of Kazakhstan for 2023-2029, 2023). In addition, 86 billion tenge has been allocated for grant funding of research projects for 2023-2025. If previous competitions for grant funding were announced once every three years, since 2023 they have been held annually. Moreover, new types of grants have been introduced: for young researchers; for collaboration; short-term grants; and personal grants. However, various international reports (OECD, 2017; World Bank, 2023) highlight that the current public investment in HE and research is not sufficient to support Kazakhstan's ambitions to cultivate world-class HE. Despite the government's attempts to implement significant reforms and incentive schemes, the country's research and development (R&D) funding remains minimal, accounting for only 0.17% of the GDP. This percentage is notably lower compared to the average public spending on R&D in OECD countries, which stands at 2.3% (OECD, 2017). Consequently, there is an ongoing need for strategic financial considerations to meet the nation's aspirations in the development of the HE sector.

The findings reveal that the research performance of the institution is significantly hindered by the lack of financial support for research. Interviewees frequently mentioned a lack of sufficient resources including research materials and funding for publication fees and that they have had to spend their own money for these expenses. They highlighted that as their institution intends to improve its ranking position by focusing on research performance and requirements to publish, it should also allocate adequate funds that cover publication fees and research materials. The influence of research funding on research productivity of academics has been widely discussed in previous studies (Aagaard et al., 2021; Heyard & Hottenrott, 2021; Nguyen et al., 2016). For example, Heyard and Hottenrott (2021) examined the effects of competitive research funding on researchers' publication outputs in Switzerland and found that funding contributes to the growth in the number as well as the quality of publications. Similarly, Kim and Min (2020) found that the introduction of the individual-level funding policy in South Korea substantially improved researchers' scientific productivity and the quality of published papers. Thus, the lack of funding is likely to pose barriers to improving the research performance of the university and its ranking position, respectively. Understanding these barriers is key for university leaders who aim to improve their institution's ranking position in GURs.

Performance-based incentives

Another key research finding relates to the role of performance-based incentives in increasing the research performance of the university. In this regard, many authors emphasise the role of NPM in proliferating a performance measurement culture in universities and the application of performance-based rewards as an incentive for improved numbers of research output and efficiency (Huang & Xu, 2020; Kallio et al., 2017; Lei, 2021; Watermeyer & Olssen, 2016). In the present study, participants perceived various incentives, including the

KPI and grant funding as enhancing their research productivity and tried to produce more papers in international journals in response to incentives and monetary rewards provided by the institution. However, this actually did not increase their capability to publish in high quality and prestigious journals. In other words, incentive scheme at the sampled institution just increased the number of outputs produced, including in predatory journals. A bigger question which is to ask – can universities incentivise a researcher to publish in the best research outlets? In other words, is it to possible to incentivise quality? In fact, incentives influence the behaviour of people, not skills, especially in research (Jørgensen & Hanssen, 2018). Thus, performance-based incentives can have unintended consequences such as an increase in the quantity of research output, rather than quality. Actually, participants in this study shared their concern about the negative implications of research incentive schemes, particularly where they focus on quantity over quality. They highlighted that some academics tend to publish in predatory journals to improve their research productivity and to qualify for incentives from institution. This finding aligns with previous research in which authors argue that research incentives do not always improve the quality of research, and in some cases can lead to academic misconduct and publishing in predatory journals (Chen, 2019; Jørgensen & Hanssen, 2018; Muthama & McKenna, 2020). For example, some negative consequences of performance-based funding systems such as the Research Excellence Framework (REF) in the UK are expressed through employing gaming strategies like hiring new managers who are masters of leveraging high evaluation scores and emphasis on performance evaluation of what Watermeyer and Olssen (2016) call the "competitive market game". Muthama and McKenna (2020) found that research incentives encouraged predatory publishing in South Africa. Similarly, Kallio et al. (2017) found that performance management in Finnish

universities has resulted in the quantification of quality. The authors state that quality indicators implemented in HEIs are dominantly quantitative and governments around the world are increasingly relying on quantitative performance-based metrics in assessing the quality of the research output.

On the other hand, some studies found the positive influence of performance-based incentives on publication rates and the research performance of the researchers and HEIs (Andersen & Pallesen, 2008; Himanen & Puuska, 2022; Kim & Bak, 2020; Kyvik & Aksnes, 2015). For example, Kim and Bak (2020) analysed the research productivity of academic staff in a South Korean university over 9 years and found that academics who perceived such incentives positively published more articles in high impact factor journals. However, in the present study, although participants perceived incentive schemes positively, they admitted that performance-based incentives did not contribute to the improved quality of the research at the university.

Some participants highlighted that introduction of the researcher position in the university allowed them to focus on research. Although there are certain requirements for this position including the papers published in international peer-reviewed journals, some interviewees shared their positive experience working as a researcher and how it contributed to their research productivity. This step from university leadership implies that they are aware about the difficulty of handling teaching and research at the same time and are willing to provide more protected time and incentives for research activities. Nevertheless, such initiatives and incentives from the university leadership can further segregate research and teaching and break the research-teaching nexus discussed earlier.

While it is not easy to evaluate the quality of research without quantitative indicators, current study found that quantitative indicators and requirements of performance-based incentive schemes should be reconsidered. In this regard, Xu et al. (2021) highlight that the methodology and impact of performance-based incentives must be carefully examined. The authors conducted the study on the influence of incentives for international publications on research culture and stimulation of research productivity in China and concluded that institutions should apply a "human-oriented" approach in offering research incentives instead of "one-size-fits-all" policymaking. The findings of the present study in part complement the previous studies that focus on the negative implications of incentives.

Policy recommendations to Kazakhstani universities and government around the use of GURs

Based on the findings of the study, the following recommendations are put forth to enhance policy and practices in Kazakhstan around the use of GURs:

The successful development of the national HE system of Kazakhstan depends not on pursuing immediate gains in GURs but rather on the thoughtful development of a system that aligns with long-term goals in HE. While GURs have the potential to provide valuable insights and enhance global visibility of HEIs, a solitary emphasis on them may yield unintended consequences (Gowen & Hengesteg, 2021; Huisman & Stensaker, 2022; Lim, 2018; Shattock, 2017). Hence, Kazakhstani universities are recommended to adopt a balanced approach to GURs, with a focus on improving academic quality, research output, and student experience. The government, particularly the MoSHE, is encouraged to promote a broader understanding of university quality, including teaching and community engagement, alongside research output and guide HEIs in utilising GURs as instruments for ongoing self-evaluation, instead of relying solely on them to determine success. HEIs should be cautious about the blind pursuit of GURs, as it could have negative effects on academic quality and integrity (Buckner & Zhang, 2021; Enders, 2014; Selten et al., 2020; Williams & de Rassenfosse, 2016) .

Policy makers and HEIs in Kazakhstan should take into account the limitations of GURs. It is important for the government to acknowledge that GURs may not fully represent the diverse missions and goals of universities (Gadd, 2021; Goglio, 2016; Wende & Don, 2009). Moreover, the government should recognise that GURs could reflect an Anglocentric, Western view of academic excellence, and there may be inherent biases in their criteria (Kehm, 2014; Lloyd & Ordorika, 2021; Stack, 2021b). Therefore, universities should concentrate on their unique strengths, regional relevance, and contributions to addressing local challenges instead of solely conforming to external ranking standards.

It is essential for the government and HEIs to recognise that pursuing short-term strategies designed to improve rankings requires a simultaneous commitment to building, maintaining, even increasing institutional capacity and funding over time. However, the reality is that such

endeavours may face challenges in terms of feasibility and resource availability (Baltaru et al., 2022). Therefore, HEIs should acknowledge the importance of realistic and sustainable long-term planning for capacity building and funding allocation, taking into consideration the financial constraints and competing priorities that institutions may face. This approach ensures a more pragmatic and feasible pathway toward achieving improvements in rankings over time, aligning strategic goals with the practical realities of resource availability.

The findings of this study indicate that the university's research performance has not improved due to the increased pressure to publish. This implies that, despite the emphasis on publication metrics, there can be a discrepancy between the overall research quality and the quantity of published work (Biagioli, M. & Lippman, 2020; Feldman & Sandoval, 2018; Gruber, 2014). The recognition of this disparity by the government and HEIs can raise questions about the usefulness of the existing emphasis on publication numbers as a proxy for research performance. This stresses the need for a more nuanced and comprehensive evaluation of research performance beyond simple publication counts. This could involve reassessing the criteria for success, placing greater emphasis on the quality and societal impact of research.

Summary

This chapter discussed the findings of the study, particularly in relation to existing literature. The data collected provides insights into the nature of how academics and senior management perceive rankings' effect on a public university in Kazakhstan. Overall, the findings show the power of GURs for defining the reputation of HEIs and why universities seeking to improve their reputation in the competitive global HE market increasingly rely on GURs.

The findings of this study suggest that the impact of GURs on the national HE system of Kazakhstan is multidimensional and can be divided into three levels: macro (nation-state), meso (institutional), and micro (individual) levels. At the macro level, the government of Kazakhstan implements HE policy aimed at enhancing the competitiveness of the national HE system by responding to GURs' indicators. At the meso level, HEIs in Kazakhstan participate in GURs by the coercive policy of the government and actively respond to GURs by employing different strategies, including gaming techniques, and providing incentives. Findings indicate that GURs provide a tangible and actionable metrics and are potentially open for gaming and

manipulation. And finally, at the micro level, individual academics and senior management staff feel the change in the institutional culture as a result of participation in GURs through the growing pressure to publish in English, handling teaching and research and they also tend to game the rankings to overcome the barriers in improving the research productivity. The change in institutional culture was manifested through prioritisation of research performance and performance metrics. Additionally, they perceived GURs as enhancing the international visibility and reputation of HEIs in Kazakhstan. It demonstrates how reliant on GURs the developing HE sector is, and how it acts to meet the performance standards established by developed HE systems, complementing the claims of the theory of academic imperialism.

This study reveals that participation in GURs has resulted in a greater focus on research performance yet without necessarily leading to improved research performance and accordingly reveals weak causality involving GURs and research productivity. Institutional data indicated that HEIs in Kazakhstan mainly improved their ranking position through reputational indicators and the Faculty Student Ratio indicator while citation indicators are very low across all HEIs. While the governmental policy prioritises the development of research-intensive universities in Kazakhstan, study findings show that HEIs in Kazakhstan are mostly teaching-oriented. It shows that collusion with GURs is a form of policy borrowing turning HEIs of Kazakhstan into weak imitations of Western counterparts and also causing them to reproduce the forms of disingenuous behaviour which competitive accountability systems encourage and stimulate. Nonetheless, in the era of expanded globalisation, HEIs from developing countries are not able to resist to the influence of GURs on national HE systems.

The findings of the study mainly support the assertions of the theories guiding the study – the institutional theory and the theory of academic imperialism. Overall, the chosen theoretical frameworks provided a lens through which the behaviour of HEIs can be analysed within the broader context of global trends in HE. Findings related to the change in institutional behaviour, employing gaming techniques and aspirations to establish a positive reputation and prestige of the university can serve as a manifestation of the reactivity of HEIs in Kazakhstan to the GURs as one of the main concepts of institutional theory. Meanwhile, findings related to the pressure to publish in international peer-reviewed journals in English, struggling of academics in Kazakhstan in publishing in English, the dominance of English in

academia, the growing role of GURs in ascribing reputation and excellence, and the dependency of Kazakhstan in developing its HE system on Western ideas can be served as a support of the tenets of the theory of academic imperialism.

Finally, this chapter provides recommendations for policy and practice regarding the utilisation of GURs. The following chapter will conclude the dissertation and will reflect on its contributions and limitations, implications for policy and practice and recommendations for future research.

Chapter 6: Conclusion

Introduction

The aim of this qualitative exploratory study was to examine the perceptions and experiences of university academics and senior management on the impact of GURs on their institution, a public university in Kazakhstan. The target population was academic and senior management staff at public university of Kazakhstan that ranked in the major GURs. Academics in this study included tenured teaching staff with academic degrees from all faculties. Senior management comprised of vice rectors, deans, and heads of departments. In total, 17 participants participated in the online semi-structured interviews. The following over-arching research question guided the study:

- How has the policy commitment to global university rankings affected higher education institutions in Kazakhstan?

Additionally, the following sub-research questions were formulated:

- How do academics and senior university management staff perceive and react to the utilisation of GURs within their institution?
- How have GURs influenced the research performance and productivity of the university?

This study illuminated the way in which in one developing HE context, HEIs respond to GURs. This chapter concludes the study by providing the contributions and limitations of the study, its implications for policy and practice, and recommendations for further research.

GURs as a policy instrument for the development of HEIs in Kazakhstan

In a globalised world, GURs have a profound effect on national HE systems. As the literature shows, GURs triggered numerous reforms and excellence initiatives in HE system of many countries and Kazakhstan is no exception. Although GURs are tools that ought to assess the quality and performance of HEIs, they are turning to powerful policy instrument that serves as a model for defining the best universities, dictates the behaviour of HEIs and intensifies the competition not only between HEIs but also between nation-states. In this sense, GURs

become a major driving force in a geo-political competition of what Hazelkorn (2015) calls a "battle for excellence".

"Reputation race" legitimised the dominant role of highly ranked HEIs as they set standards for other institutions to follow as well as being the global leaders in student enrolment, funding and reputation. Actually, numerous studies have shown the positive impact of ranking position on student numbers, finances and reputation. Therefore, ignoring the influence of GURs for nation-states and HEIs could result in diminishing these indicators that are essential for contemporary HEIs.

What makes Kazakhstan particularly interesting in this case is its blend of post-Soviet legacy, cultural diversity, and evolving geopolitical dynamics. In Kazakhstan, which is one of the developing countries with the ambition to build a competitive national HE system, GURs have already penetrated various areas in HE whether it is a partnership with western HEIs, studying abroad, or improving research performance of HEIs. Hence, the question is not about the appropriateness of HE policy in Kazakhstan that is driven by GURs, but rather about the ways of achieving these ambitious aims. The results of this study related to the barriers to research performance and gaming the rankings can provide important insights into improving the current HE policy in Kazakhstan. Currently, HEIs in Kazakhstan are forced to participate in GURs by the coercive policy of the government. In turn, HEIs use any means, including resorting to gaming techniques to boost their performance in GURs. While the participants in this study confirm that the pressure to publish has intensified with the participation in GURs, institutional data of HEIs in Kazakhstan show that they improved their performance in GURs not due to research productivity, but primarily through reputation surveys and the faculty and student ratio indicators. Therefore, these findings suggest that in the context of Kazakhstan, a growing emphasis on GURs can generate "measurable" universities, which satisfy certain ranking criteria but lack academic quality. By following a high-stakes game of GURs, HEIs in Kazakhstan are no further increasing their research capabilities and are instead extending a profligate game of point-scoring – a game they are always likely to lose. This emphasises the necessity for a nuanced and balanced approach to GURs, aligning them with the broader goals of academic quality, research excellence, and the unique strengths of HE in Kazakhstan.

Contributions of the study

The findings of this study are important as they will foster understanding of the ways by which GURs affect HEIs in less developed contexts. In particular, examining institutional responses of universities to the GURs' indicators makes it possible to understand the influence of GURs in Kazakhstan. To date, the impact of GURs on HEIs of Kazakhstan has not been examined. Studying this problem, especially in connection with the impact of GURs on research performance of HEIs in Kazakhstan forms part of the contribution of this study.

This study added a unique country-level perspective to the literature by studying the use and influence of GURs in Kazakhstan. Given the serious lack of the literature on the impact of GURs on developing countries, this study can contribute to the current literature on rankings by providing evidence of using GURs as a powerful instrument of defining HE reforms in less developed countries. The findings provide a richer understanding of the perspectives of the academics from developing country on the impact of GURs. It also showcases the struggles of non-English, less wealthy, developing country to compete with English-speaking, science-dominant countries with highly established HE sectors.

The study also provides important insights into the tensions and contradictions to gaming the GURs by universities in Kazakhstan. The study contributes to a deeper understanding of the motivations and challenges associated with the pursuit of higher rankings and the strategic actions taken by HEIs to manipulate GURs. These insights can have implications for policymakers, university leadership, and other stakeholders involved in HE. Understanding the tensions and contradictions involved in gaming GURs can inform decision-making and resource allocation in HEIs.

Implications for policy and practice

This study makes a valuable and timely contribution to policy and practice in terms of understanding how GURs affect HEIs of Kazakhstan. The findings of the present study indicate that the university focused on improving its ranking position through a pressure to publish and via performance-based incentives while these measures did not result in improved

research performance, especially citations. Stimulating a better research culture in HEIs of Kazakhstan can be an optimal solution to overcome this problem. This could include identifying possible gaps in the training of academic staff, and the provision and promotion of advisory and mentoring services aimed at developing critical writing skills, methodological framework of research. In addition, the findings indicate the unfamiliarity of the academic staff with the requirements of international peer-reviewed journals. Thus, organising workshops on publishing in peer-reviewed journals could contribute to developing an enhanced research culture.

The study findings also reveal various barriers to improving the research performance including problems with publishing in English, insufficient funding of research and tensions between teaching and research. Understanding these barriers is essential for policy makers and university leadership in making informed decisions for improving the research performance of the university. HEIs could encourage faculty to be more research productive by introducing institutional policies aimed at organising English classes for academics and providing early career researchers with protected time to undertake and publish high-quality research. Additionally, the introduction of research-informed teaching could be an alternative solution of the imbalance between teaching and research in Kazakhstan.

Another implication of this study for policy makers and university leadership involves introducing more efficacious incentive schemes for research production and publishing in high-quality journals. Study participants criticised the indicators of available research incentive schemes that prioritise the quantity over quality.

The study also provides evidence that the pressure to publish can entail various gaming techniques to increase research performance. The data contributes a clearer understanding of gaming strategies adopted by academics and HEIs. Therefore, it is essential for policymakers and HEIs to analyse the negative implications of the pressure to publish.

Limitations of the study

This study has a few limitations worth discussing. The most important to acknowledge is that the study was limited in scope as was conducted exclusively at one institution. This institution is only one of the 16 HEIs of Kazakhstan that represented in GURs. The small sample size has

limited the generalisability of the results and the extent to which the findings of the study are generalisable to other institutions in Kazakhstan is questionable. However, given that the institutional data (Table 3) indicate that the performance of HEIs of Kazakhstan in the QS WUR was mainly similar with the highest indicator in the Faculty Student Ratio and low citation indicators, it can be assumed that institutional responses in the context of Kazakhstan would be similar. Furthermore, as the sampled institution is one of the leading HEIs in Kazakhstan, it seems that in other HEIs of Kazakhstan that ranked much lower, the findings related to the barriers to research performance and gaming the rankings would be more intense.

Additionally, it is worth acknowledging the limitations of the interview sample. The decision to categorise academics and senior management as equivalent entities might not account for the diverse roles, responsibilities, and power dynamics within these groups. Academics and senior management frequently have differing viewpoints, priorities, and experiences that, if not properly addressed, could compromise the nuanced understanding sought by the study. Thus, it is important to acknowledge that the decision to treat these groups equally may overlook inherent differences in perspectives, potentially confounding the findings of the study.

Finally, the study was conducted online due to the Covid-19 restrictions. There was some connectivity and delay problems during conducting online interviews which possibly negatively impacted building a rapport between the researcher and some interviewees.

Recommendations for future research

No previous research has examined the perceptions and experiences of academics and senior management on the impact of GURs on HEIs in the context of Kazakhstan. Thus, this study provided a number of avenues for further examinations and given the findings and limitations of this study, several recommendations for future research can be proposed. First, future studies could use a larger sample of HEIs and participants in order to gauge the differences between institutions and to provide more generalisable results. Literature suggests that HEIs respond to GURs differently (Espeland & Sauder, 2007; Locke, 2014). Therefore, including in the sample different types of HEIs, such as those differing in size, mission, and academic focus, can help to uncover a broader spectrum of potential responses to GURs.

Second, this study revealed some differences in the perceptions of STEM and non-STEM researchers on the impact of GURs. Thus, future studies can explore these differences in detail and gain a comprehensive understanding of how GURs are perceived and experienced in different academic domains. Investigating these differences in more depth could lead to valuable insights into the intricate ways in which GURs affect researchers in different disciplines, potentially uncovering discipline-specific challenges, benefits, and strategies in response to GURs.

Third, this study examined the perspectives of faculty through interviews. Other methods such as surveys, focus groups, observations and documentary analysis could be used in the future studies to better understand the influence of GURs on HEIs of Kazakhstan and to triangulate the research findings.

Another topic of interest not sufficiently explored by this study is the impact of GURs on teaching. Although the findings of this study indicated the negative influence of GURs on teaching, it was mainly focused on the research performance of HEIs. Thus, future studies should examine how GURs influence teaching practices and teachers' identity of academic staff under performative culture.

Lastly, future research also could consider broadening the scope of study participants by involving other stakeholders such as government officials and HE policy experts to provide diverse perspectives in understanding the context of the influence of GURs.

Concluding statement

GURs have become an intrinsic part of the global HE system and a major proxy for excellence and quality as well as a significant element of global competition (Leiber, 2017; Naidoo, 2018; Shahjahan & Morgan, 2016; Stack, 2021b; Watermeyer & Olssen, 2016). The need for GURs is determined by the interest of different stakeholders in reliable and accessible information about the dynamics and trends in HE, and competitiveness of various universities, and the presence of the increasing demands of society for the quality of HE as part of the NPM paradigm, culture of performance evaluation, HE neoliberalisation and market logic (Espeland, 2020; Shore & Wright, 2020; Watermeyer & Tomlinson, 2022). Individual institutions cannot ignore GURs as positioning in rankings has a significant effect on their

prestige, funding and the interest of various stakeholders including students (Blackmore, 2016; Dearden et al., 2019; Espeland & Sauder, 2016; Hazelkorn, 2015). Additionally, the growing influence of GURs can be observed in their role as accelerator of HE reforms and policymaking in national contexts (Erkkilä, 2014; Gornitzka, 2013; Hazelkorn, 2017). Moreover, top-ranked universities are considered as powerful drivers of national economies, which further reinforces the focus of nation states on GURs (Salmi, 2009; Shin et al., 2011). Despite their explicit limitations GURs remain essential to HEIs seeking to enhance their reputations in the competitive global HE market and nation-states are actively reforming their HE systems guided by GURs.

The findings of this study shed light on the effect of GURs on HEIs in the context of Kazakhstan. Drawing on the interview data, I have learned about the ways academic and senior management staff responded to participation in GURs. The findings showed that GURs exert considerable influence over HEIs in Kazakhstan and change in institutional culture by prioritising metrics. In particular, participants of this study perceived the impact of GURs on national HE system mainly through the lens of research performance. They highlighted that as result of the impact of the GURs, their university focused on the research performance by demanding publishing in international peer-reviewed journals and by providing incentive schemes. However, as the findings indicate these measures have not been contributed to the improved research performance. The findings related to barriers to research performance might explain the reasons behind it as they revealed various challenges in improving the research performance of the university and tensions in adopting a new research culture. The study results complement and expand the existing literature on the impact of GURs on HEIs and I hope that the results of this study are important in understanding faculty's perspective on the impact of GURs in the context of Kazakhstan. Overall, based on institutional theory and the theory of academic imperialism, this study offers a critical evaluation of the development of the HE system of Kazakhstan under the influence of GURs.

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APPENDICES

APPENDIX A: University of Bristol, School of Education Research Ethic Form

SoE RESEARCH ETHICS FORM

It is important for members of the School of Education, as a community of researchers, to consider the ethical issues that arise, or may arise, in any research they propose to conduct. Increasingly, we are also accountable to external bodies to demonstrate that research proposals have had a degree of scrutiny. *This form must therefore be completed for each piece of research carried out by members of the School, both staff and students*

The SoE's process is designed to be supportive and educative. If you are preparing to submit a research proposal, you need to do the following:

1. **Complete the form on the back of this sheet**
   A list of prompts for your discussion is given below. Not all these headings will be relevant for any particular proposal.

2. **Arrange a meeting with a fellow researcher**
   The purpose of the meeting is to discuss ethical aspects of your proposed research, so you need to meet with someone with relevant research experience. Discussants are encouraged to take the role of critical friend and approach the research from the perspective of potential participants.

   Track the changes in how your thinking has changed as a result of your decisions; this form is designed to act as a record of your discussion and any decisions you make.

3. **Upload a copy of this form and any other documents (e.g. information sheets, consent forms, materials) to the online ethics tool**
   at: https://dbms.ilrt.bris.ac.uk/red/ethics-online-tool/applications.

   Please note: Following the upload you will need to answer ALL the questions on the ethics online survey and submit for approval by your supervisor (see the flowchart and user guides on the SoE Ethics Homepage).

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If you have any questions or queries, please contact the ethics co-ordinators at: gsoe-ethics@bristol.ac.uk

Please ensure that you allow time before any submission deadlines to complete this process.

_____

Prompts for discussion

You are invited to consider the issues highlighted below and note any decisions made. You may wish to refer to relevant published ethical guidelines to prepare for your meeting. See http://www.bris.ac.uk/education/research/networks/ethicscommittee/links/

for links to several such sets of guidelines.

1. Researcher access/exit
2. Power and participant relations
3. Information given to participants
4. Participant's right of withdrawal
5. Informed Consent
6. Complaints procedure
7. Safety and well-being of participants/researchers
8. Anonymity/confidentiality
9. Data collection
10. Data analysis
11. Data storage
12. Data protection (see: http://www.bristol.ac.uk/secretary/data-protection/)
13. Feedback
14. Responsibilities to colleagues/academic community
15. Reporting of research

Be aware that ethical responsibility continues throughout the research process. If further issues arise as your research progresses, it may be appropriate to cycle again through the above process.

Name(s): Aigerim Bayanbayeva

Proposed research project: The impact of global university rankings on higher education institutions of Kazakhstan

Proposed funder(s): N/A

Discussant for the ethics meeting: Rentauli Silalahi

Name of supervisor: Professor Richard Watermeyer

Has your supervisor seen this submitted draft of your ethics application? Yes

Please include an outline of the project or append a short (1 page) summary:

This study aims to examine the impact of global university rankings on higher education institutions of Kazakhstan. The specific research aim is to understand the perceptions of university academics and senior management (rectors, vice rectors, deans, heads of departments) of higher education institutions of Kazakhstan regarding the impact of global university rankings on their institutions. To address the study aim, the next central key research question has been formulated:

- How has the policy commitment to global university rankings affected higher education institutions in Kazakhstan?

Additionally, the following sub-research questions will guide the study:

- How do academics and senior university management staff perceive and react to the utilisation of GURs within their institution?
- How have GURs influenced the research performance and productivity of the university?

The study employs mixed-methods approach. An explanatory sequential design of the study allows to increase the validity of findings, where quantitative data will be first collected and analysed, then the findings from the quantitative phase inform qualitative data collection and analysis (J. W. Creswell, 2014; Teddlie & Tashakkori, 2009). The quantitative phase of this study will be based on the survey developed by the researcher while the qualitative phase of the study will include semi-structured interviews with academic staff and university management, and documentary analysis. Data collection instruments will include surveys, interviews and documentary analysis. In this study, the researcher will considerately commit to the ethical guidelines set by British Education Research Association (BERA).

The target population for both quantitative and qualitative phases of the study will be comprised of academics and senior management in different universities of Kazakhstan. Two different categories of respondents (senior management and academics) are chosen in order to prevent possible bias. As several studies (Allen, 2021b; Kwiek, 2018) show, in some cases, senior management and academics show different, even contradicting viewpoints about the

impact of university rankings on their HE institutions. Therefore, taking into account different perspectives is important in examining the research topic and preventing the possible bias. For the quantitative phase of the study, the stratified sampling technique will be used to ensure the representation of the two strata: academics and senior management (Daniel, 2014). Sampling criteria for the survey and interviews: 1) academic staff and senior management from the universities of Kazakhstan that listed in major university rankings such as QS World University Rankings, Times Higher Education and Academic Ranking of World Universities; 2) academic staff and senior management from research universities in Kazakhstan; 3) academic staff and senior management from STEM and non-STEM fields.

For the qualitative phase of the study, a purposive sampling technique will be utilised. Patton (2015) argues that purposeful sampling strategy "focuses on selecting information-rich cases whose study will illuminate the questions under study" (p. 230). Since the specific aim of this study is to examine perceptions of university academics and senior management in terms of the impact of rankings on their institutions, it is important to study the opinion of those who have active knowledge and experience. Since the small sample size and the qualitative nature of the interviews do not allow to generalise the findings, a purposive sampling can increase the transferability of the findings to a wider institutional context (Merriam & Tisdell, 2016).

Around 7-10 semi-structured interviews with academics and senior management in each university will be conducted. Data saturation technique will help to define the precise sampling size. Data saturation is achieved when sufficient information has been collected to replicate the study and additional data does not provide new significant information (Fusch & Ness, 2015).

Ethical issues discussed and decisions taken as related to:

1. **Researcher access/exit**
- It is expected that around 100 respondents will participate in the quantitative phase and about 20-30 participants in the qualitative interviews at 3 higher education institutions in Kazakhstan.
- Data collection will be conducted on a voluntary basis.
- Only consenting adults will be recruited to participate within the study.
- No personal information or information that might reputationally or commercially sensitive will be collected. In the event that participants divulge such information, this will be redacted from the record.
- Participants will be provided with a letter of thanks for their participation and an offer to make available the final written dissertation will be provided.

2. **Information given to participants**
- Within the survey preamble, a full description of the study including participants' rights will be provided. Additionally, all survey respondents will be required to provide their consent to participation via means of a check box.
- Before the start of the interviews, a consent form to participate in the study will be sent to participants. This will contain full information about the purpose of the study,

data storage and data confidentiality issues, participants' rights of withdrawal, and other important issues. In addition, the participant information sheet will provide important information about the purpose of the study, participants' rights, and contacts for further information.

3. Participant's right of withdrawal

Participants are allowed to withdraw at any stage of the study and without the need for reason or consequence. The participant's right to withdrawal at any stage of the study will be explained in the description of the study and in the consent form.

4. Informed Consent

Invitation letters will be sent to the administration of participant universities and informed consent will be obtained through email.

5. Complaints procedure

Complaints procedure will be explained to participants in the participant information sheet and in the consent form. Participants can send their concerns to the email address of the researcher which will be given in the invitation letter, cover letter for the survey and consent form. Contact details of the doctoral supervisor, Professor Watermeyer, will also be included.

6. Safety and well-being of participants/researchers

All participants will be encouraged to find a quiet and secure space for completing the survey and conducting interviews. The data collection process will be conducted online through the Google Forms (for questionnaires) and Zoom (for interviews) online platforms and it is expected that there will be no safety and well-being issues.

7. Anonymity/confidentiality

The researcher will ensure anonymity/confidentiality issues throughout this study. Survey respondents and interviewees will participate in the study anonymously. As for the interviewees, their names will be coded and replaced by numbers. No personal data will be collected. To minimise the risks to access to the data, collected data will be stored in an encrypted form in the researcher's personal computer and external hard drive with passwords only known to the researcher. To minimise the risk of data loss, it will be transferred to the online repository of the University of Bristol and will be store with the password. The data will be destroyed after completing and presenting the dissertation.

8. Data collection

Questionnaires, with an approximate completion time of 10-15 minutes will be sent through the Google Forms. Semi-structured interviews will be conducted through the Zoom online platform and will take 40-50 minutes. There will be around 20-25 questions for the survey and 10 questions for interviews. Additionally, the documentary analysis will be conducted where strategic documents of universities and other important documents will be retrieved from the websites of the universities and other sources.

9. Data analysis

Descriptive statistics will be used to analyse quantitative data collected from surveys while qualitative data collected from interviews and documents will be analysed by using thematic analysis.

10. Data storage

To minimise the risks to access to the data, collected data will be stored in an encrypted form in the researcher's personal computer and external hard drive with passwords only known to the researcher. To minimise the risk of data loss, it will be transferred to the online repository of the University of Bristol and will be store with the password. The data will be destroyed after completing and presenting the dissertation.

11. Data protection

Collected data will be protected in accordance with the UK's Data Protection Act, 25th May 2018. Data will be collected only for the purpose of this study and will be used in presenting the findings of the study. Participants will be informed about data protection issues in the invitation letter, cover letter for the survey and consent form.

12. Feedback

If the participant gives consent, the researcher will send the interview transcripts to the participant for member check purposes in order to improve the accuracy, credibility and transferability of a study.

13. Reporting of research

The findings of this study will be used mainly for presenting the doctoral dissertation. Summary of the findings may also be published as an article in peer-reviewed journals and may be presented at conferences.

14. Language issue

This study will be conducted in universities of Kazakhstan, where the participants' mother tongue is Kazakh or Russian. Therefore, in order to better explore the participants' views by enabling them to speak at length on the language, they are competent and comfortable with, the data in this study will be collected in Kazakh and Russian. Survey results and the transcription of interviews will be translated into English by professional translator.

If you feel you need to discuss any issue further, or to highlight difficulties, please contact the GSoE's ethics co-ordinators who will suggest possible ways forward.

Signed: (Researcher)   (Discussant)

Date: 15.07.2021   Aigerim Bayanbayeva   Rentauli Silalahi

Richard Watermeyer (Supervisor)

APPENDIX B: Consent form to participate in interview

Consent Form

Research project title: The impact of global university rankings on higher education institutions of Kazakhstan

You are invited to participate in the study that aims to examine the impact of global university rankings on higher education institutions of Kazakhstan. The research is described in the attached information sheet. If you agree to participate in the study, it is important that you understand the following general principles.

I have been informed that my involvement in the research is voluntary.

I understand that even if I agree to participate now, I am free to withdraw from the research at any time, without comment or penalty.

I understand that participation involves being interviewed by Mrs. Bayanbayeva. The interview will last approximately 40-50 minutes. I agree with my interview being audio-recorded.

I understand that all information I provide for this study will be treated confidentially, data will be stored in encrypted form in the researcher's personal computer and external hard drive and will be destroyed after the completion of the dissertation.

I understand that in any report on the results of this research my identity will remain anonymous.

I understand that I will not be paid for my participation.

I have read and understood the explanation provided to me. I have had all my questions answered to my satisfaction.

---   ---
My Signature   Date

My printed name

Signature of the Researcher

For further information please contact the Researcher at:

di18366@bristol.ac.uk

Please keep your copy of the consent form and the information sheet together.

APPENDIX C: Interview guide

<p style="text-align:center">Semi-structured interview guide</p>

Introduction

- Welcome
- Statement of the purpose of the interview
- Guidelines to follow during the interview

Thank you for taking the time to speak with me about your perspectives on the impact of global university rankings on HEIs of Kazakhstan. In this study, I am trying to understand the impact of global university rankings on HEIs of Kazakhstan and identify the factors that facilitate or hinder universities' research performance. Your answers to the interview questions will provide important information for this study.

With your permission, I would like to make an audio recording of this interview to make sure that I have an accurate account of your answers. I would like to assure you that no one except me, will have access to these recordings. Your anonymity will be ensured throughout the study and your name will be coded and replaced by number. You can choose not to answer any questions or to stop the interview at any time. Please feel free to ask me if you have any questions before we start.

Warm-up

Basic background data about her/himself (things like name, where they grew up, etc.) as a way of warming up your participant.

1. Please, could you introduce yourself briefly (work experience, research interest)?

Begin with easy to answer questions and move towards ones that are more difficult or controversial.

2. What do you know about major global university rankings?

3. Why is it important to be ranked in global university rankings?

- Do you monitor global university rankings and why? Do you monitor your institution's position in rankings and why?

- Tell me about strategies that your university takes in improving its position in rankings.

- What factors contribute to the improvement of the university's position in rankings?

4. Tell me about some positive and negative consequences of global university rankings in the HE sector of Kazakhstan.

5. To what extent global university rankings affect the research performance of the universities?

6. How would you define research performance?

- How would you describe the research performance of your institution?

- What do you think are the key points to be developed by your institution in order to improve the research performance?

- What do you think about performance-based funding of universities? Are there any benefits and drawbacks?

- Tell me about incentive systems of your institution that encourage research productivity.

7. In your opinion, what factors facilitate and hinder research performance of the university?

- Could you suggest some ways to improve university's research performance?

8. What is your experience of publish or perish culture in academia?

9. How are you trying to find a balance between research, teaching, and other activities in the context of global university rankings?

10. Currently the government of Kazakhstan is actively using global university rankings in determining higher education policy and defining its long-term aims to develop the higher education sector. What do you think about this trend?

Closing Statements

- Answer any remaining questions

- Express thanks

APPENDIX D: Survey questionnaire

Survey questionnaire questions

Part I. The impact of global university rankings on HE institutions of Kazakhstan

1. **Participation in global university rankings is important for increasing the competitiveness of HEIs of Kazakhstan**

    a. Strongly Agree

    b. Agree

    c. Neither agree nor disagree

    d. Disagree

    e. Strongly Disagree

2. **Participation in global university rankings has led to major changes in the higher education system of Kazakhstan**

    a. Strongly Agree

    b. Agree

    c. Neither agree nor disagree

    d. Disagree

    e. Strongly Disagree

3. **My university prioritised the research excellence as a result of participation in global university rankings**

    a. Strongly Agree

    b. Agree

    c. Neither agree nor disagree

    d. Disagree

    e. Strongly Disagree

4. **Global university rankings' results affect the funding of HEIs in Kazakhstan**

    a. Strongly Agree

    b. Agree

    c. Neither agree nor disagree

    d. Disagree

e. Strongly Disagree

5. **Rankings help maintain and enhance institutional reputation and visibility of my university globally**

   a. Strongly Agree

   b. Agree

   c. Neither agree nor disagree

   d. Disagree

   e. Strongly Disagree

6. **Participation in global university rankings has caused various changes in my university**

   a. Strongly Agree

   b. Agree

   c. Neither agree nor disagree

   d. Disagree

   e. Strongly Disagree

7. **My university has incentive systems that promote research productivity.**

   a. Strongly Agree

   b. Agree

   c. Neither agree nor disagree

   d. Disagree

   e. Strongly Disagree

8. **Contributing to the improvement of the research performance of my university is important to me**

   a. Strongly Agree

   b. Agree

   c. Neither agree nor disagree

   d. Disagree

   e. Strongly Disagree

9. **Publishing articles is important to me**

a. Strongly Agree

b. Agree

c. Neither agree nor disagree

d. Disagree

e. Strongly Disagree

10. Publishing articles in English is important to me

a. Strongly Agree

b. Agree

c. Neither agree nor disagree

d. Disagree

e. Strongly Disagree

11. How many research publications in international peer-reviewed journals have you produced in the past 5 years?

a. None

b. 1-5

c. 6-10

d. More than 10

12. Who funded the publication of your articles?

a. At my own expense

b. University

c. Other sources

d. Published for free

13. In your opinion, what is the major barrier to publishing articles in international peer reviewed journals?

a. Limited English language proficiency

b. Lack of funding

c. Unfamiliarity with the requirements of international peer reviewed journals

d. Lack of time

e. Other factors

14. How has a commitment to GURs shaped your university?

Part II. Demographic questions

15. What is your age?

    a. 21-30

    b. 31-40

    c. 41-50

    d. Above 50

    e. Prefer not to say

16. What is your gender?

    a. Male

    b. Female

    c. Prefer not to say

17. What is your faculty?

18. What is your position?

    a. Academic staff

    b. University management (rector, vice rector, dean, heads of department and other)

19. What is your academic degree?

    a. Candidate of sciences

    b. Doctor of sciences

    c. Master

    d. PhD

20. How long have you been working in HE sector?

    a. Less than 5 years

    b. 6-15 years

    c. 16-25 years

    d. More than 25 years

21. Would you like to participate in one-to-one interview for 40-50 minutes on this topic?

    a. Yes

b. No

If you answered YES, please provide your email (please note your anonymity will be ensured throughout the study, i.e., your survey and interview responses will remain anonymous):

My email address	…

APPENDIX E: Survey findings

Survey

The survey was designed by the author for the purposes of present study and was administered online through the Google Forms. It included items that measured academics and senior managements' perceptions of the impact of GURs on their institution. "Academics" in this study are tenured teaching staff with varying academic degrees from masters to professors from different disciplines that are divided as STEM and non-STEM disciplines. Senior management comprised of vice rectors, deans, heads of departments. The survey was conducted in Kazakh and was subsequently translated into English by a researcher. After closing the survey, the responses were imported into Microsoft Excel file. For data preparation purposes, the first step was data cleaning, which is important in the quantitative data analysis as the quality of the data determines the quality of the data analysis results (Silvia & Cotter, 2021). After cleaning the survey data, 3 surveys were discarded as these respondents did not work at research site and did not meet the target population criteria. The second step involved transforming variables – converting survey responses from words to numbers and categories for analysing the data in SPSS. Overall, 166 fully completed responses were imported into IBM SPSS Statistics for analysis. Depending on the variable, descriptive statistics (frequencies, means, standard deviations, and variances) were calculated to determine general trends and characteristics of the data.

The profile of survey respondents

This section provides univariate descriptive statistics (frequency) of age, gender, position, academic degree, years of service in the HE sector and disciplines to present basic information about variables.

Table 1 shows an overall even distribution of four group of respondents by age ranging from 20.5% to 30.1%. The largest group of respondents were in the age range 21-30 (30.1%) followed by 41-50 age (27.7%). 21.7% were aged over 50 and 20.5% were in the 31-40 age group.

Table 1. Distribution of sample by age group

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-30	50	30.1	30.1	30.1
	31-40	34	20.5	20.5	50.6
	41-50	46	27.7	27.7	78.3
	Above 50	36	21.7	21.7	100.0
	Total	166	100.0	100.0	

Regarding the gender of the survey respondents, Table 2 shows that female respondents (68.1%) accounted for the majority of the sample while 31.9% were male.

Table 2. Distribution of sample by gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	113	68.1	68.1	68.1
	Male	53	31.9	31.9	100.0
	Total	166	100.0	100.0	

As for the position of participants, Table 3 indicates that academic staff (86.7%) made up the largest percentage of respondents while senior management comprised of 13.3%. It is not surprising to have more academics than senior management as this sample size indicates a real representation of the academic staff and senior management distribution in the target population.

Table 3. Distribution of sample by position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Academic staff	144	86.7	86.7	86.7
	Senior management	22	13.3	13.3	100.0
	Total	166	100.0	100.0	

To reveal the gender characteristics of academics and senior management, cross-tabulation was calculated in SPSS. Crosstabs are one of the most useful analytical tools and they are used to analyse the relationship between two or more variables (Gilbert, 2022). As Table 4 shows, out of 144 academic staff 97 were females and 47 were males. As for the senior management,

16 were females and 6 were males out of 22 senior management respondents. Overall, the number of females prevail in both groups.

Table 4. Cross-tabulation of the gender and position

| | | What is your gender? | | |
		Female	Male	Total
What is your position?	Academic staff	97	47	144
	Senior management	16	6	22
Total		113	53	166

In terms of academic degrees, all respondents had academic degrees ranging from master's to PhD. Table 5 shows that 79 respondents (47.6%) had master's degree. 45 respondents (27.1%) were with Candidate of Sciences degree, followed by 26 (15.7%) with PhD degree and 16 (9.6%) with Doctor of Sciences degree. Before joining the Bologna declaration in 2010, there were two types of academic degrees: Candidate of Sciences and Doctor of Sciences. According to current legislation, Candidate of sciences degree is equivalent to the PhD degree while Doctor of Sciences degree is considered as post-doctoral qualification that in some ways similar to the Doctor habilitatus degree in France and Germany. However, awarding of these degrees were suspended in 2010 after joining the Bologna process. Thus, in total, 87 respondents (52.4%) had doctoral degree.

Table 5. Distribution of sample by academic degree

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Candidate of sciences	45	27.1	27.1	27.1
	Doctor of sciences	16	9.6	9.6	36.7
	Master	79	47.6	47.6	84.3
	PhD	26	15.7	15.7	100.0
	Total	166	100.0	100.0	

To reveal the gender characteristics of respondents with academic degrees, cross-tabulation was calculated in the SPSS. As Table 6 indicates, out of 45 Candidate of sciences 30 were

females and 15 were males. As for the Doctor of sciences, 10 were females and 6 were males out of 16. Out of 79 Masters, 58 were females and 21 were males. Finally, out of 26 PhD 15 were females and 11 were males. Overall, it shows the dominance of females in all four groups.

Table 6. Cross-tabulation of the academic degree and gender

| | | What is your gender? | | |
		Female	Male	Total
What is your degree?	Candidate of sciences	30	15	45
	Doctor of sciences	10	6	16
	Master	58	21	79
	PhD	15	11	26
Total		113	53	166

Regarding the duration of years of service in the HE sector, Table 7 shows that respondents who have worked less than 5 years made up 31.3% of respondents. Out of the 166 participants, 44 (26.5%) worked for 16-25 years, 36 (21.7%) worked for more than 25 years, and 34 (20.5%) worked 6-15 years. In total, the majority of respondents (68.7%) have a strong track record of working within the HE sector.

Table 7. Distribution of sample by years of service in the HE sector

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5 years	52	31.3	31.3	31.3
	6-15 years	34	20.5	20.5	51.8
	16-25 years	44	26.5	26.5	78.3
	More than 25 years	36	21.7	21.7	100.0
	Total	166	100.0	100.0	

In terms of differences in disciplines, as Table 8 indicates, the majority of respondents came from non-STEM fields – 125 out of 166 (75.3%) while 41 STEM respondents accounted for 24.7%.

Table 8. Distribution of sample by discipline

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non-STEM	125	75.3	75.3	75.3
	STEM	41	24.7	24.7	100.0
	Total	166	100.0	100.0	

To reveal the gender characteristics according to disciplines, cross-tabulation was calculated in the SPSS. Table 9 shows, that out of 125 non-STEM respondents 95 were females and 30 were males. As for the STEM disciplines, there were 18 females and 23 males. Thus, STEM faculty respondents are the only group where the number of males prevails. To sum up, the descriptive statistics indicate variations in age, gender, position, academic degree, years of service in the HE sector of respondents of the survey.

Table 9. Cross-tabulation of the faculty and gender

		What is your gender?		Total
		Female	Male	
Your faculty?	Non-STEM	95	30	125
	STEM	18	23	41
Total		113	53	166

Respondents were asked to indicate the level of agreement with each 5 Likert scales statement. Codes were assigned to each response using the following scale: 1 – strongly disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, 5 – strongly agree.

As Table 10 indicates, mean for the item "Participation in GURs has led to major changes in the HE system of Kazakhstan" was the highest (M=4.15). Meanwhile, the lowest mean was to the item "GURs' results affect the funding of HEIs of Kazakhstan" (M=3.66).

Table 10. Descriptive statistics of the statements related to the responses of academics and senior university management to the use of GURs in their institutions

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance

	N		Minimum	Maximum	Mean	Std. Deviation	Variance
Participation in global university rankings has led to major changes in the higher education system of Kazakhstan	166	4	1	5	4.15	.951	.904
Global university rankings' results affect the funding of HEIs in Kazakhstan	166	4	1	5	3.66	.951	.904
Participation in global university rankings has caused various changes in my university	166	4	1	5	3.86	.889	.791
Valid N (listwise)	166						

Overall, Table 10 shows that respondents indicated high level of agreement with each statement as all the mean scores on the statements were above 3.5. To further refine the agreement levels of respondents, the frequency and percent of each item presented below.

According to Table 11, 83.2% of respondents (138 out of 166) recognised the role of GURs as a driver for change in the higher education system of Kazakhstan and only 7.2% of respondents (12) disagree with this statement.

Table 11. Frequency and percentage of responses for the item "Participation in GURs has led to major changes in the HE system of Kazakhstan".

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	2.4	2.4	2.4
	2	8	4.8	4.8	7.2
	3	16	9.6	9.6	16.9
	4	69	41.6	41.6	58.4
	5	69	41.6	41.6	100.0
	Total	166	100.0	100.0	

Table 12 shows that 95 respondents (57.2%) admitted the role of rankings in funding of HEIs in Kazakhstan. 16 respondents (9.6%) did not agree with the statement. At the meantime, 55 respondents (33.1%) stated that they neither agree nor disagree.

Table 12. Frequency and percentage of responses for the item "GURs' results affect the funding of HEIs of Kazakhstan".

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	1.8	1.8	1.8
	2	13	7.8	7.8	9.6
	3	55	33.1	33.1	42.8
	4	61	36.7	36.7	79.5
	5	34	20.5	20.5	100.0
	Total	166	100.0	100.0	

Table 13 indicates that 119 participants (71.7%) acknowledged that GURs have caused changes in their institution while only 13 participants (7.8%) disagree with the statement.

Table 13. Frequency and percentage of responses for the item "Participation in GURs has caused various changes in my university".

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.2	1.2	1.2
	2	11	6.6	6.6	7.8
	3	34	20.5	20.5	28.3
	4	81	48.8	48.8	77.1
	5	38	22.9	22.9	100.0
	Total	166	100.0	100.0	

Table 14 indicates the items related the role of GURs in enhancing the competitiveness and institutional reputation. It shows that the mean for the item "Participation in global university rankings is important for increasing the competitiveness of HEIs of Kazakhstan" was the highest (M=4.31).

Table 14. Descriptive statistics (mean and standard deviation) of the items related the role of GURs in enhancing the competitiveness and institutional reputation

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Participation in GURs is important for increasing the competitiveness of HEIs of Kazakhstan	166	4	1	5	4.31	.939	.881

GURs help maintain and enhance institutional reputation and visibility of my university globally	166	4	1	5	4.24	.854	.729	
Valid N (listwise)	166							

Table 15 shows that 145 respondents (87.3%) recognised the importance of GURs in increasing the competitiveness of higher education institutions of Kazakhstan while only 11 respondents (6.6%) were against it.

Table 15. Participation in GURs is important for increasing the competitiveness of HEIs of Kazakhstan

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	2.4	2.4	2.4
	2	7	4.2	4.2	6.6
	3	10	6.0	6.0	12.7
	4	58	34.9	34.9	47.6
	5	87	52.4	52.4	100.0
	Total	166	100.0	100.0	

Table 16 indicates that 150 respondents (90.4%) recognised the role of rankings in enhancing institutional reputation and visibility of their institution whereas only 10 respondents (6%) disagreed.

Table 16. GURs help maintain and enhance institutional reputation and visibility of my university on a global scale

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	1.8	1.8	1.8
	2	7	4.2	4.2	6.0
	3	6	3.6	3.6	9.6
	4	81	48.8	48.8	58.4
	5	69	41.6	41.6	100.0
	Total	166	100.0	100.0	

As Table 17 shows, the mean for the item "Publishing articles is important to me" was the highest (M=4.41). Meanwhile, the lowest mean was to the item "My university has incentive systems that promote research productivity (M=3.64). Overall, Table 18 shows that respondents expressed a high level of agreement with each statement.

Table 17. Descriptive statistics (mean and standard deviation) of the statements related the impact of GURs on research performance and productivity of the university

	N	Minimum	Maximum	Mean	Std. Deviation
My university prioritised the research excellence as a result of participation in GURs.	166	1	5	3.88	.996
My university has incentive systems that promote research productivity.	166	1	5	3.64	1.096
Contributing to the improvement of the research performance of my university is important to me.	166	1	5	4.30	.674
Publishing articles is important to me.	166	2	5	4.41	.604
Publishing articles in English is important to me.	166	1	5	4.12	.990
Valid N (listwise)	166				

Table 18 presents descriptive statistics (mean, median, mode, standard deviation, and range) of the statements related to research performance and productivity. This table also provides evidence of the high level of agreement with each statement as median, mode and range for each statement was close to 4. As for standard deviation of responses, it measures the dispersion of the data in relation to the mean. The item "My university has incentive systems that promote research productivity" has a highest standard deviation (SD=1.096), which means data are more spread out from the mean. Meanwhile, the item "Publishing articles is important to me" has the lowest standard deviation (SD=.604), which implies that data are clustered around the mean.

Table 18. Descriptive statistics (mean, median, mode, standard deviation, and range) of the statements related the impact of GURs on research performance and productivity of the university

		My university prioritised the research excellence as a result of participation in GURs	My university has incentive systems that promote research productivity	Contributing to the improvement of the research performance of my university is important to me	Publishing research is important to me	Publishing research in English is important to me
N	Valid	166	166	166	166	166
	Missing	0	0	0	0	0
Mean		3.88	3.64	4.30	4.41	4.12
Median		4.00	4.00	4.00	4.00	4.00
Mode		4	4	4	4	4
Std. Deviation		.996	1.096	.674	.604	.990
Range		4	4	4	3	4
Minimum		1	1	1	2	1
Maximum		5	5	5	5	5

Table 19 shows that 121 respondents (72.9%) recognised that GURs affect their institution's research activities while 18 respondents (10.8%) disagreed with this statement.

Table 19. Frequency and percentage of responses for the item "My university prioritised the research excellence as a result of participation in GURs".

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	2.4	2.4	2.4
	2	14	8.4	8.4	10.8
	3	27	16.3	16.3	27.1
	4	74	44.6	44.6	71.7
	5	47	28.3	28.3	100.0
	Total	166	100.0	100.0	

According to Table 20, the majority of respondents (65.7%) agree that their university promotes research productivity under the influence of GURs whereas 28 respondents (16.9%) disagree.

Table 20. Frequency and percentage of responses for the item "My university has incentive systems that promote research productivity under the influence of GURs".

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	5.4	5.4	5.4
	2	19	11.4	11.4	16.9
	3	29	17.5	17.5	34.3
	4	75	45.2	45.2	79.5
	5	34	20.5	20.5	100.0
	Total	166	100.0	100.0	

Table 21 shows that 155 respondents (93.4%) supported the significance of contributions to the improvement of their institution's research performance while only 3 respondents (1.8%) disagree with this statement.

Table 21. Frequency and percentage of responses for the item "Contributing to the improvement of the research performance of my university is important to me".

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.6	.6	.6
	2	2	1.2	1.2	1.8
	3	8	4.8	4.8	6.6
	4	90	54.2	54.2	60.8
	5	65	39.2	39.2	100.0
	Total	166	100.0	100.0	

Table 22 demonstrates that 160 respondents (96.4%) supported the importance of publishing articles while only 4 participants (1.2%) disagree. This item indicates the highest level of agreement compared to others.

Table 22. Frequency and percentage of responses for the item "Publishing articles is important to me".

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	1.2	1.2	1.2
	3	4	2.4	2.4	3.6
	4	84	50.6	50.6	54.2
	5	76	45.8	45.8	100.0

		Frequency	Percent	Valid Percent	Cumulative Percent
	Total	166	100.0	100.0	

As for the publishing in English, Table 23 shows that 141 respondents (85%) supported the importance of publishing in English while 16 participants (9.6%) disagreed.

Table 23. Frequency and percentage of responses for the item "Publishing articles in English is important to me".

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	3.0	3.0	3.0
	2	11	6.6	6.6	9.6
	3	9	5.4	5.4	15.1
	4	75	45.2	45.2	60.2
	5	66	39.8	39.8	100.0
	Total	166	100.0	100.0	

The other three questions in the survey questionnaire were nominal questions that asked about the number of published articles, funding sources for publications, and the factors that hinder to publication articles in international peer-reviewed journals. Question 11 asked "How many research publications in international peer-reviewed journals have you produced in the past 5 years?". The responses are presented in Table 24. Out of 166 participants, respondents who published 1-2 articles (43.4%) made up the largest percentage. 53 respondents (31.9%) indicated that they have not published articles in international peer-reviewed journals. 32 respondents (19.3%) published 3-4 articles and 9 respondents (5.4%) published more than 5 articles.

Table 24. How many research publications in international peer-reviewed journals have you produced in the past 5 years?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	53	31.9	31.9	31.9
	1-2 articles	72	43.4	43.4	75.3
	3-4 articles	32	19.3	19.3	94.6
	More than 5	9	5.4	5.4	100.0
	Total	166	100.0	100.0	

It was important to reveal demographic characteristics of respondents in these groups as it can be a key in understanding the barriers to publishing in the context of Kazakhstan. Therefore, cross-tabulations were calculated with regards to the age, gender, position, academic degree, faculty, and years of service of the respondents in this group.

As Table 25 indicates, respondents aged 21-30 were the largest group (31) who have never published article and the smallest group who have published more than 5 articles (0). Table shows that respondents aged 41-50 and above 50 published more articles compared to other categories.

Table 25. Crosstabulation of the number of published articles and age

| | | What is your age? | | | | |
		21-30	31-40	41-50	Above 50	Total
How many peer-reviewed research publications have you produced in the past 5 years?	0	31	12	5	5	53
	1-2 articles	15	14	25	18	72
	3-4 articles	4	6	12	10	32
	More than 5	0	2	4	3	9
Total		50	34	46	36	166

Table 26 indicates that 38 females published no articles compare to 15 males. The largest group was females who published 1-2 articles (53), the smallest group comprised of males who have published more than 5 articles (3).

Table 26. Crosstabulation of the number of published articles and gender

| | | What is your gender? | | |
		Female	Male	Total
How many peer-reviewed research publications have you produced in the past 5 years?	0	38	15	53
	1-2 articles	53	19	72
	3-4 articles	16	16	32
	More than 5	6	3	9
Total		113	53	166

Table 27 presents cross-tabulation of the number of published articles and faculties. The largest group was non-STEM academics who published 1-2 articles (55) while the smallest group comprised of STEM academics who have published more than 5 articles (1).

Table 27. Crosstabulation of the number of published articles and faculty

		Your faculty?		Total
		Non-STEM	STEM	
How many peer-reviewed research publications have you produced in the past 5 years?	0	38	15	53
	1-2 articles	55	17	72
	3-4 articles	24	8	32
	More than 5	8	1	9
Total		125	41	166

Table 28 indicates that overall academics published more articles than senior management. The largest group was academics who published 1-2 articles (64) while the smallest group comprised of senior management who have published 3-4 articles (1).

Table 28. Crosstabulation of the number of published articles and position

		What is your position?		Total
		Academic staff	Senior management	
How many peer-reviewed research publications have you produced in the past 5 years?	0	44	9	53
	1-2 articles	64	8	72
	3-4 articles	31	1	32
	More than 5	5	4	9
Total		144	22	166

Table 29 presents cross-tabulation of the number of published articles and academic degrees. Overall, the largest group was masters who have published no articles (49). The smallest group also comprised of masters who have published more than 5 articles (0). Amongst Candidate of sciences the largest group was academics who published 1-2 articles (28).

Table 29. Crosstabulation of the number of published articles and academic degree

		What is your degree?				
		Candidate of sciences	Doctor of sciences	Master	PhD	Total
How many peer-reviewed research publications have you produced in the past 5 years?	0	2	1	49	1	53
	1-2 articles	28	5	26	13	72
	3-4 articles	11	7	4	10	32
	More than 5	4	3	0	2	9
Total		45	16	79	26	166

Table 30 presents cross-tabulation of the number of published articles and years of service in the HE sector. The largest group was academics who published no articles and worked 1-5 years in HE (34) while the smallest group comprised of academics who published more than 5 articles and worked 1-5 years in HE (0).

Table 30. Crosstabulation of the number of published articles and years of service

		How long have you been working in the HE sector?				
		1-5 years	16-25 years	6-15 years	More than 25 years	Total
How many peer-reviewed research publications have you produced in the past 5 years?	0	34	2	12	5	53
	1-2 articles	15	27	15	15	72
	3-4 articles	3	11	6	12	32
	More than 5	0	4	1	4	9
Total		52	44	34	36	166

Table 31 provides descriptive statistics of frequency and percentage of responses about the funding sources for publication of articles. Respondents, who paid for themselves in publishing articles (62.7%) comprised the largest percentage. 15 respondents (9%) indicated that they published articles free of charge. 10 respondents (6%) relied on other sources and only 6 respondents (3.6%) published at the expense of the university. 31 (18.7%) respondents left this question blank, as they did not publish articles.

Table 31. Who funded the publication of your articles?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N/A	31	18.7	18.7	18.7
	At my own expense	104	62.7	62.7	81.3
	At the expense of the university	6	3.6	3.6	84.9
	Other sources	10	6.0	6.0	91.0
	Published for free	15	9.0	9.0	100.0
	Total	166	100.0	100.0	

Question 13 in the questionnaire focused on the barriers to publishing articles in international peer-reviewed journals. Table 32 shows that 54 respondents out of 166 (32.5%) regarded lack of funding as a major hindering factor, followed by 42 respondents (25.3%) who viewed the lack of English language proficiency as a barrier. Unfamiliarity with the requirements of international peer-reviewed journals was chosen by 25 respondents (15.1%). 23 respondents (13.9%) referred to the lack of time. Finally, 22 respondents (13.3%) indicated other factors.

Table 32. In your opinion, what is the major barrier to publishing articles in international peer-reviewed journals?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other factors	22	13.3	13.3	13.3
	Limited English language proficiency	42	25.3	25.3	38.6
	Lack of funding	54	32.5	32.5	71.1
	Unfamiliarity with the requirements of international peer-reviewed journals	25	15.1	15.1	86.1
	Lack of time	23	13.9	13.9	100.0
	Total	166	100.0	100.0	

Qualitative data from the open-ended question

Question 14 is an open-ended question that asked respondents' perception of the impact of GURs on their institutions: "How has a commitment to GURs shaped your university?". Since open-ended questions gather qualitative data, the responses for this question were analysed through thematic analysis in order to identify patterns within the data and to understand the research data (Ponto, 2015). Thus, thematic analysis of open-ended question was useful in gaining meaningful understanding of the perspectives of academic staff and university leadership. Responses for this open-ended question varied from short responses to longer. Each response was coded, and codes were grouped by categories. As a result, two dominant themes were identified: 1) participants identified GURs as intensifying a pressure to publish; 2) participants viewed GURs as part of their institution's quest for status gain and thus competitiveness in recruitment markets for both students and faculty.

Theme 1. Participants identified GURs as intensifying a pressure to publish

Respondents referred to increased pressure to publish in the open-ended question of the survey:

"The requirements to publish articles in international peer-reviewed journals have been tightened."

"There has been a greater emphasis on research and publishing."

"We are required to publish papers in high-impact factor international journals."

In addition, findings indicates that the pressure to publish decreased the value of research:

"Emphasis is placed on the quantity of articles, not quality."

"As a result of co-authorship without contribution, a generation of pseudo-researchers is forming."

Theme 2. Participants viewed GURs as part of their institution's quest for status gain and thus competitiveness in recruitment markets for both students and faculty

Open-ended responses referred to increased prestige and a growing international reputation:

"The popularity of our university has grown."

"The reputation of the university outside the country has become stronger".

"Global university rankings have enhanced the university's prestige and helped it gain international recognition."

Summary

To sum up, descriptive statistics provided general trends and characteristics of the data. It indicates that respondents showed overall high level of agreement with Likert scale statements. Bivariate analysis and crosstabulations helped to get more nuanced characteristics of the sample.

The results suggest that participation in GURs has led to significant changes in the HE system of Kazakhstan, especially in terms of the focus on the research performance of HEIs. The results also indicated that respondents admit the role of GURs in increasing the competitiveness of HEIs of Kazakhstan as well as maintaining institutional reputation and visibility of the university. The quantitative results also show that institutions pay special attention on the research performance by incentivising the research productivity of the faculty. Another major quantitative finding shows that respondents feel responsible for providing more research in order to improve the research performance of their institution and recognise the importance of publishing articles. However, as the findings indicate the number of articles published in international peer-reviewed journals is still low. For example, only 9 out of 166 respondents published more than 5 articles in international peer-reviewed journals in the past 5 years. Lack of funding followed by limited English language proficiency were identified as major barriers to publishing articles. Overall, the survey results provided the researcher with ideas about topics that might be discussed during the semi-structured interviews.