

Policy Report

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*Vision 2030 and the Socio-Economic Reform
Process: The Future of Labour and Migration in
Saudi Arabia*

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International Science Faculty in Saudi Arabia

Research Experiences and Challenges

Anju Mary Paul, Kurt W. Kuehne, Kareem El-Rafei and Bedoor AlShebli

Executive Summary

Saudi Arabia is undertaking a significant transformation of its research landscape as part of its Vision 2030, striving to become a global hub for scientific innovation and academia. Drawing on data gained from an analysis of all scientific publications authored by Saudi-based authors over the past century, and an extensive survey and a series of interviews with non-Saudi scientists currently working in Saudi Arabia, we assess the contemporary scientific research landscape in Saudi Arabia in two of the country's priority areas – the biological sciences and computer science.

We find a noticeable increase in Saudi institutions' research productivity and impact over time. The concomitant rise in citations of Saudi-produced publications further signals the growing recognition and influence of Saudi research, driven largely by its universities and research centers. Elite institutions like the King Abdullah University of Science and Technology (KAUST) particularly benefit from substantial funding and administrative autonomy. These successes indicate the potential of Saudi institutions to contribute significantly to global scientific research.

Nonetheless, the survey and interviews with non-native faculty reveal marked disparities between KAUST and other Saudi universities where inadequate funding structures, bureaucratic hurdles, and infrastructure limitations are prevalent. In addition, six persistent challenges emerged that severely limit the effectiveness of Saudi Arabia's research ecosystem: (1) Insufficient and hard-to-access research funding, (2) Workload and time management issues, (3) Inadequate research facilities and supply chain issues, (4) Lack of availability and poor quality of research support staff and students, (5) Lack of career advancement opportunities and job insecurity, and finally, (6) Inefficient research administration and management.

To address the identified challenges, this brief recommends the following changes:

- Enhance research funding modalities to encourage more ambitious research projects
- Improve job security and career progressions for foreign faculty
- Strengthen research infrastructure and support to reduce delays in accessing research supplies and equipment
- Re-balance teaching and research responsibilities to create time for faculty to pursue their research agendas
- Promote collaborative and ethical research practices

To conclude, Saudi Arabia stands at a pivotal moment in its ambition to become a leading force in global academic research. By implementing these strategic improvements, the Kingdom can significantly advance its university-based research ecosystem, elevate the quality of its research output, and solidify its standing as a top destination for elite scientific talent worldwide.

Background

Saudi Arabia is undertaking a significant transformation of its research landscape as part of its Vision 2030, striving to become a global hub for scientific innovation and academia. There is a clear mandate for Saudi universities to not only educate the next generation of Saudi scientists, but also to produce high-quality research that benefits the nation economically and raises the international profile of Saudi's research sector^{1 2}. Drawing on data gained from a quantitative analysis of nearly all scientific publications authored by Saudi-based authors over the past century, an online survey of 152 faculty and postdoctoral researchers working in either the biological sciences or computer science at Saudi universities, and in-depth interviews with 32 non-Saudi faculty members across 11 universities in the country, we assessed the contemporary scientific research landscape in two of Saudi Arabia's priority areas – the biological sciences and computer science.

Findings from Big Data Analysis

From our quantitative analysis of an open-source dataset that consists of approximately 240 million publications authored by 100 million authors and spanning over a century of scientific research, we found that there has been a noticeable increase in Saudi institutions' research productivity over time, measured by the number of publications with at least one Saudi-based author (see Figure 1). Furthermore, as seen in Figure 1, the two significant spikes in research productivity correspond to the launch of KAUST in 2009 and the announcement of Vision 2030 in 2016. This trend is also evident in the rise in citations of Saudi-produced research (which we term "impact"), indicating the growing recognition and influence of Saudi research.

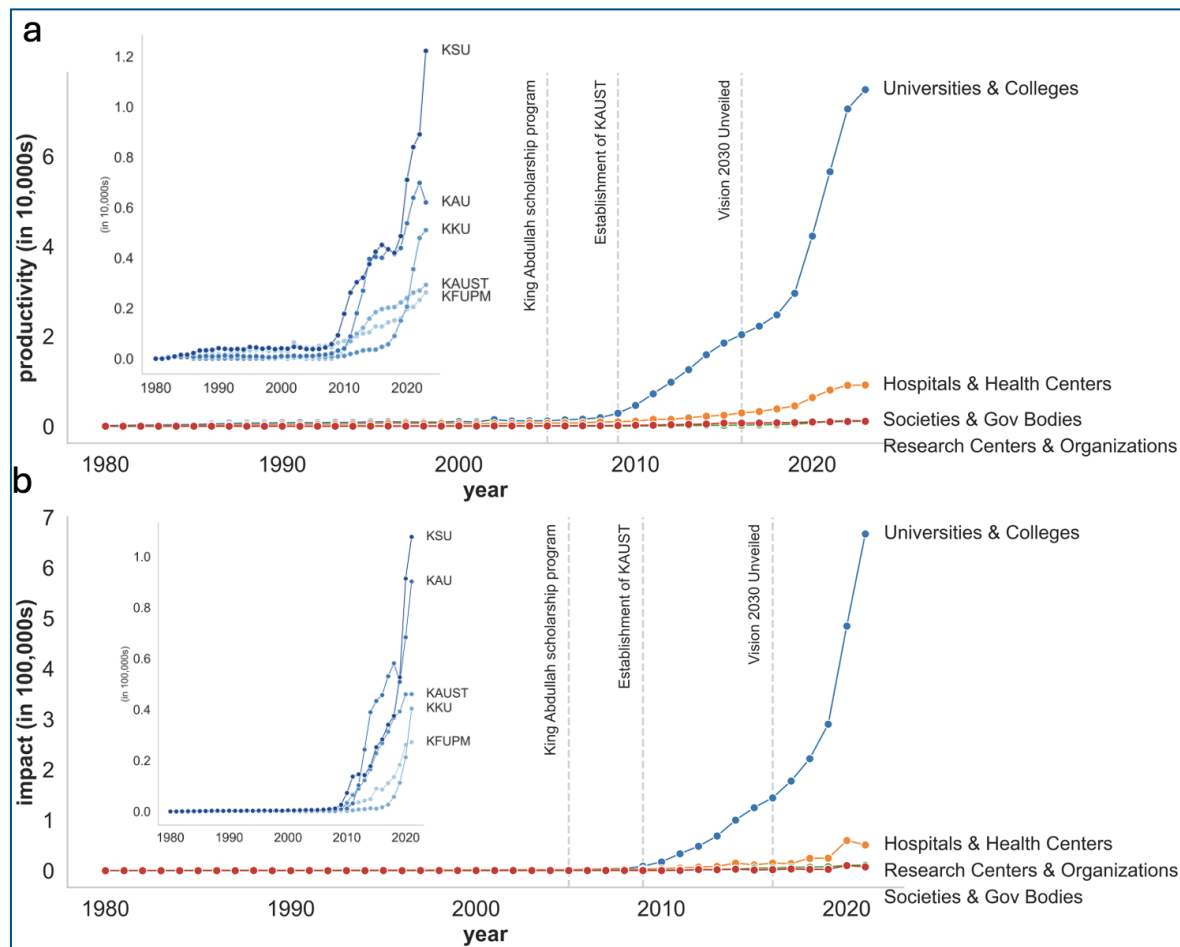


Figure 1. Research productivity and impact overtime **(a)** depicts productivity trends across our four categories of research-producing institutions. The inset highlights the productivity of the top five most research-productive universities in the country. **(b)** presents similar trends over time but focuses on research impact (c₂) instead of productivity.

Amongst the top five most productive and impactful universities in Saudi Arabia, King Saud University (KSU) led in terms of both overall research productivity and impact (see subsets in Figure 1). However, when considering the most impactful research based on average citations per publication, KAUST emerged as the leader with an average of 13.4 citations per publication compared to 6.9 for KSU, demonstrating its growing influence and the high quality of its research contributions. Notably, biology stood out as the top field in both productivity and impact, underscoring its central role in Saudi's research output.

Findings from Survey Analysis

Our anonymous surveys with 106 Saudi-based foreign faculty revealed that their decision to move to Saudi Arabia had been slightly difficult for them (2.9 on a 1-5 scale) (see Table 1). This was consistent across both KAUST and non-KAUST faculty. However, survey respondents reported an improvement in their research productivity after moving to their current Saudi institution (3.9 on a 1-5 scale) and also expressed strong job satisfaction (3.9 on a 1-5 scale). Despite this, there were significant differences

between the KAUST and non-KAUST faculty, with the former group reporting much greater improvement on both fronts. KAUST faculty expressed significant happiness with their current institution, relative to their previous institution, in the domains of research funding, salary and benefits, research facilities, time for research, and leadership opportunities. In contrast, non-KAUST faculty only expressed significant happiness with their salary and benefits relative to their previous institution. They also felt that the leadership opportunities and job security in their current institutions were worse when compared to their previous institutions, while KAUST faculty reported the opposite. These and other differences between KAUST and non-KAUST faculty point to the need for greater nuance in assessments of the Saudi higher education sector and an acknowledgement that it has multiple tiers, each with its specific characteristics and challenges.

Table 1: Experiences of Faculty Respondents in Saudi Arabia

Characteristics	All Saudi-based Faculty N = 106	KAUST faculty N = 24	Non-KAUST faculty N = 92
Ease of Decision to Move (on a 1-5 scale)	2.9	2.9	2.9
Change in Research Productivity (on a 1-5 scale)	3.82	4.25	3.74
Overall Job Satisfaction (on a 1-5 scale)	3.92	4.33	3.82
Comparing Present Institution vs Previous Institution^{\$} (-2 to +2 scale)			
Salary and benefits	1.34	1.75	1.22
Research funding	1.00	1.96	0.71
Research facilities	0.83	1.54	0.61
More time for research	0.63	1.46	0.36
Research community	0.19	0.38	0.13
Institutional status/reputation	0.09	-0.21	0.19
Leadership opportunities	0.12	1.08	-0.19
Job security	-0.01	0.42	-0.14
Work-life balance	0.59	0.58	0.59

Notes:

^{\$}Respondents were asked to rate their experience in their current institution compared to their previous one, on a 5-point scale, with 2 being “current institution is much better” and -2 being “previous institution is much better.” If the respondent indicated that both institutions were on par with each other, this was scored as 0.

The two research-related challenges most mentioned by survey respondents were “Research Funding” and “Workload and Time Management” (both at 31 percent). The next most mentioned complaints were “Research Staff and Student Issues” and “Research Facilities and Supply Chain Issues” (both at 22 percent). When we subsequently conducted our interviews, the same issues were raised repeatedly by our interviewees.

Findings from Interviews

Our 32 faculty interviewees came from 11 different Saudi universities that were all in the top 20, based on their research productivity. These 11 universities included public and private institutions, as well as national institutions like KAUST and King Fahd University of Petroleum and Minerals (KFUPM), alongside more regional universities. As with the survey data, many interviewees shared that their research output had increased after moving to Saudi Arabia. At the same time, interviewees spoke of a range of challenges they had encountered while trying to maintain an active research agenda. These challenges (listed below) aligned closely with those mentioned in the survey responses:

Research Funding and Bureaucracy

Non-KAUST faculty complained about both the volume of available research funding and the procedures for securing it. While KAUST faculty were provided with generous research start-up packages and annual research stipends, faculty in other universities often did not receive any start-up research grants. Often, they only received reimbursements if their findings were published in a top journal in their field. Other interviewees complained about the unprofessional management of funding calls and the slow processing of fund disbursements and reimbursements even after a successful grant application, resulting in delayed or scaled-back research ambitions.

Workload and Time Management

Non-KAUST faculty frequently complained about the limited time they could devote to conducting quality research when their teaching and administrative responsibilities took up most of their time. Senior faculty who had helped establish new universities/departments talked about the time this work had taken, detracting from their research. Other faculty linked their heavy workloads to the shrinking number of foreign faculty in their departments as they were being replaced by young Saudi faculty. While they understood the goal of Saudisation to create private-sector employment for qualified Saudi citizens, they expressed a concern that it was being implemented too quickly in Saudi universities in ways that were hurting Saudi students as well as the remaining faculty who had more experience than the young Saudi faculty being hired.

Research Facilities and Supply Chain Issues

Interviewees across all university types frequently cited supply chain issues that slowed or otherwise limited their capacity to conduct research. These challenges affected nearly every stage of the procurement process, from lab set-up and budget authorisations to importation delays and equipment maintenance issues. Scientists consistently expressed frustration over what they perceived as avoidable bureaucratic delays that exceeded normal timelines for procurement. Even when supplies could be acquired in a timely fashion, the overall laboratory set-up in some universities was not always geared towards conducting research.

Research Support Staff and Student Issues

Scientists also voiced concerns about the recruitment and retention of high-quality research support staff, such as graduate research assistants, postdoctoral research fellows, and administrative personnel. This was not as much of a problem at KAUST, but at other Saudi institutions, research personnel issues tended to be pronounced. Many interviewees also noted that their universities did not yet have doctoral programmes, and so they lacked doctoral students who could work on their projects with them.

Career Advancement and Job Security

KAUST has adopted the American-style tenure system to offer job security and promotion prospects to its faculty hires, but interviewees outside of KAUST reported being on one-year contracts that could be terminated at relatively short notice. There was often a sense of insecurity lurking at the back of the minds of foreign faculty in public universities. In recent years, many foreign faculty were not having their contracts renewed to create space for returning overseas-trained Saudis. Foreigners were also not being considered as often for university/department leadership positions, as these were increasingly being reserved for Saudi nationals, diminishing long-term commitment among international faculty, and potentially leading to high attrition rates and brain drain.

Administration and Management Practices

Faculty reported a frequent misalignment between their university's ambitious research goals and the resources allocated to achieve them, leading to inefficiencies and potentially unethical practices to meet unrealistic publication targets. While no interviewee admitted to engaging in such practices, several did admit to simply trying to publish the minimum number of papers, so as to stay employed, rather than focusing on the quality or novelty of their research agenda.

Recommendations for Action

Despite these challenges, there are significant opportunities for systemic improvement. Recent initiatives under Vision 2030 have begun to streamline grant applications and funding procedures, offering a glimpse into what a more supportive research infrastructure could look like. Additionally, certain institutions have demonstrated best practices in research support and administration that could serve as models for wider adoption. To further address these challenges and capitalise on opportunities, this brief makes the following recommendations to Saudi government and university leadership:

Enhance Research Funding Modalities

- Simplify the grant application and disbursement processes to reduce delays
- Ensure transparency and consistency in funding competitions
- Explore long-term funding mechanisms for sustained research projects

Balance Teaching and Research Responsibilities

- Introduce policies that safeguard dedicated research time for faculty, such as instituting "research days"
- Adjust teaching requirements to maintain a balance between instruction and research activities

Strengthen Research Infrastructure and Support

- Develop reliable and efficient supply chain systems for research materials
- Broaden access to high-performance computing resources
- Expand doctoral and postdoctoral programmes, providing competitive fellowships to attract both domestic and international talent

Improve Job Security and Career Progressions

- Introduce longer-term, renewable contracts (three years or more) for foreign faculty
- Consider adoption or adaptation of tenure-track systems to incentivise committed research engagements
- Offer leadership opportunities to qualified foreign faculty

Promote Collaborative and Ethical Research Practices

- Foster internal and external collaborations by encouraging exchange programmes and providing funding for collaborative work
- Implement ethical guidelines and monitoring systems to uphold research integrity

By implementing these policies, Saudi Arabia can strengthen its rising university research ecosystem, enhance its global competitiveness, and attract and retain top-tier international scientific talent, while balancing its desire for increased Saudisation in the higher education sector.

Endnotes

- 1 Kazim, S.M., AlGhamdi / S.A., Lytras, M.D. / Alsaywid, B.S. 2024: Nurturing Future Leaders: Cultivating Research and Innovation Skills in Saudi Scientific Community, Baroudi, S. and Lytras, M.D. (Ed.) Transformative Leadership and Sustainable Innovation in Education: Interdisciplinary Perspectives (Emerald Studies in Higher Education, Innovation and Technology), Emerald Publishing Limited, Leeds, pp. 231-265.
- 2 Mitchell, B. / Alfuraih, A. 2018: The Kingdom of Saudi Arabia: Achieving the aspirations of the National Transformation Program 2020 and Saudi Vision 2030 through education in, Journal of Education and Development 2(3):36. <https://doi.org/10.20849/jed.v2i3.526>

Contact

Philipp Dienstbier
Director
Regional Programme Gulf States
European and International Cooperation
philipp.dienstbier@kas.de

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