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We must transition from merely following the latest technology to creating our own

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Professor Khaled Al-Kattan, dean of Alfaisal University's College of Medicine, explains how Alfaisal University is deeply integrated into Saudi Arabia's Vision 2030, focusing on transforming education and healthcare. The university has embraced a model that prioritizes research and development, collaborating with government initiatives to produce graduates who are well-prepared to contribute to the kingdom's goals. Professor Al-Kattan also touches on the university's interdisciplinary strengths, its international partnerships, and its commitment to innovation and local talent development.

Could you begin by providing an introduction to yourself and Alfaisal University?

Let’s start with Saudi Arabia’s ambitious Vision 2030 which focuses on multiple areas, including education and healthcare. This goal established by the government is to shift from ordinary healthcare to wellness and quality of life. The Ministry of Education and other sectors must work together since the Ministry of Education is essentially the factory that produces individuals who fulfill our human capital needs.

Saudi Arabia has significantly invested in education, starting with government universities. We now have 29 government universities spread across the country. Additionally, private universities have entered the space with about 15 institutions and even more colleges. There are also plans to allow

international universities to open in Saudi Arabia – a major initiative by Prince Mohammed bin Salman to enhance education and bring top-tier exposure.

Alfaisal University was established 16 years ago as the first private, not-for-profit university model in Saudi Arabia. Our vision and mission is to be world-class, research-based, student-centered, and to provide equal opportunities in technical fields crucial for the future. We focus on six core areas, three of which are related to health: the College of Medicine, the College of Pharmacy, and the College of Science. The other three areas are business, law, and engineering. Our emphasis on healthcare began with our College of Medicine, which partnered with Harvard Medical International for the past 16 years to develop our curriculums. Locally, we are affiliated with King Faisal Specialist Hospital – the leading hospital in the Middle East which serves as our teaching hospital.

We have built a strong foundation with state-of-the-art facilities, modern labs, and top faculty from 42 different nationalities, all with extensive experience in education and research. We accepted our first students in 2008 and have grown to become one of the largest medical colleges, attracting students from 38 countries. Our College of Medicine is ranked among the top 200 worldwide in health sciences and our graduates are top achievers both in Saudi Arabia and internationally.

Our curriculum is designed to meet future needs, differing from other medical colleges by fostering a culture of lifelong learning, focusing heavily on undergraduate research. This approach has led to the development of multiple master’s programs in health and biomedical sciences, affiliated with various hospitals. Starting in September 2024, we will offer PhD programs in seven tracks, further expanding our academic offerings.

Can you discuss the key activities of the university and its unique positioning within Saudi Arabia’s health ecosystem?

We believe in collaborating closely with the Ministry of Health, Ministry of Education, and Ministry of Human Resources to ensure our graduates can meet future needs and adapt to healthcare transformations. We therefore encourage our students to engage in research that aligns with Saudi Arabia’s priorities, which is a significant part of our mission.

One key milestone for Alfaisal University, particularly the College of Medicine, is being selected by the government and the Ministry of Education for the S9 project. This initiative aims to position nine Saudi universities among the top 100 globally by 2030. Our selection indicates our commitment to excellence, and we are working closely with the Ministry of Education to improve in

areas like research, healthcare, and innovation.

Another significant project is our involvement in the Riyadh Health City initiative. This is a massive 4 million square meter health city that includes a biotechnology city, Alfaisal University, and King Faisal Hospital. This presents a big challenge and high expectations, but we are excited to be part of such a transformative project.

Universities have a major role in healthcare through education, research, and social responsibility. We align our research with the Ministry of Health, NIH, RIDIA, and CAPS to address current problems and needs. Our strong community service and health responsibility programs involve medical and pharmacy students in awareness, education, and community services, which is crucial to our mission. We also provide consultancy and support to other colleges and universities.

Regarding graduate opportunities, we collaborate with the Saudi Council for Health, where I serve as a board member, to oversee residency programs. We also work with King Abdullah University of Science and Technology (KAUST) to develop the first MBBS-PhD program, similar to the MD-PhD program in the US – enabling our students to continue into advanced research in healthcare and biomedical sciences.

What challenges do you see in increasing the university's international competitiveness, and what benchmarks have you set to improve your positioning?

There are many challenges in boosting our international competitiveness, such as fostering lifelong learning and striving to be among the best not only locally but globally. Despite these challenges, we've made significant progress. In the Saudi medical licensing exam, we lead in both success rates and average scores. Additionally, our graduates have the highest acceptance rate and numbers for the US residency match. This year alone, 47 of our graduates were matched in top US hospitals for residency programs.

Our mission and responsibility extend beyond these achievements. We aim to keep progressing, aligning with the ambitious Vision 2030, and advancing healthcare in various aspects. This goal is shared not only by our College of Medicine but also by other colleges within the university. We collaborate closely with the College of Engineering, especially in advanced manufacturing and AI. We've established the Alpha-Health Initiatives Center, focusing on innovation and digital health, and the Advanced Manufacturing Center for Innovative Health Devices.

We also partner with the College of Business, offering an elite MBA in healthcare and executive programs for healthcare professionals. Together, we established a health economy center and host an annual conference on this topic. Our collaboration extends to the College of Law, our newest college, which offers a track in medical law. This college is unique for being taught in English and covers various subspecialties including health law, environmental law, and business law.

There is a recognized need for more talented workers in Saudi Arabia, as highlighted by the Minister of Investment. What are your views on the current talent availability and its progress?

I believe most countries now recognize that real wealth lies in human capital and its capabilities. This is always a challenge, especially in education, where attracting talented individuals who can both teach and mentor is crucial. In the medical field, for instance, the primary challenge was attracting international faculty to come to the university. However, we have successfully attracted faculty from all over the world with top qualifications and extensive experience in education and research.

One significant factor that helped us overcome this obstacle is the social transformation in Saudi Arabia. People now have a better understanding of Saudi as a good place to live, with a warm social environment and advanced systems in utilities, healthcare, and education. Another key development is the introduction of the permanent golden residency, which has attracted many international faculty members. This residency offers scientists and innovators priority status, and several of our faculty members have benefited from this program.

Considering the interdisciplinary work at Alfaisal University, can you elaborate on how you align with the Kingdom of Saudi Arabia’s priorities – particularly in collaboration with the Ministry of Health – to develop talent?

This is a pivotal time for Saudi Arabia to enter an era of innovation. While we have adopted the latest advancements from leading institutions worldwide, it’s crucial to start fostering our own innovations, research, and outcomes. The establishment of the Research, Development, and Innovation Authority (RADIA) has been a significant motivator in this direction. RADIA supports innovative healthcare labs, and we recently had several of our labs supported by them, with a budget exceeding five million USD. They also have plans for major research initiatives and support

innovation by building incubators.

We must transition from merely following the latest technology to creating our own. There is a significant move towards e-health, e-clinics, and AI in healthcare. Alfaisal University is actively participating in this shift. Alfaisal hosts an annual AI in health competition and has a Technology Transfer Office (TTO) that sponsors innovative projects from students and faculty- taking them to the translational research level. Additionally, the Computing Accreditation Commission (CAC) runs a similar project called The Garage which supports and hosts innovative AI projects, many of which are related to healthcare. The future biotechnology city will also be a significant hub for these activities.

Overall, both Alfaisal and the government's goal is to advance healthcare through sophisticated, locally adapted technology and innovation. Together with the kingdom, we aim to be a leader in exporting our latest technologies to the rest of the world.

How do you ensure that the exciting technologies being developed are effectively utilized and have a real impact?

To ensure the technologies we are working with are impactful, it's crucial to create a robust ecosystem where stakeholders, officials, innovators, students, and faculty work together towards common objectives. At Alfaisal, we established an office called Dimensions, which focuses on teaching design thinking to everyone, including healthcare professionals. Design thinking, which is emphasized in top universities like MIT, is about fostering innovative thinking and e-design in students.

Furthermore, we encourage innovation through both curricular and extracurricular activities. Once promising projects are identified, they are sent to our TTO, where they receive sponsorship to advance to the next stage. From there, our Commercialization and Translational Research Office (CTRO) helps develop these projects into marketable products. This involves taking the product through clinical trials, manufacturing, and eventually bringing it to market.

This comprehensive ecosystem, which includes interdisciplinary collaboration and continuous motivation is key. We have several promising projects in the pipeline ready for commercialization, and we are eager to see them make a significant impact both nationally and globally. This structured approach maximizes the chances of turning innovative ideas into practical, beneficial solutions for patients and end users.

You mentioned a strong focus on organizational research and integrating it into the Alfaisal's curriculums. Can you elaborate on this priority and how it is being advanced within the university?

Healthcare research typically involves both basic science and clinical-based research. To promote and facilitate research, we've established advanced core labs equipped with sophisticated technology. We encourage faculty and students to engage in innovative research by providing internal research grants. These grants support approved research projects, which we then follow through to publication, intellectual property development, and patent acquisition.

We have strong partnerships with hospitals, especially King Faisal Specialist Hospital and Research Center, enabling significant collaboration, particularly in the clinical phase of research. Saudi Arabia is now prioritizing clinical trials, with support from the Saudi FDA and research initiatives like RADIA. The lessons learned from COVID emphasized the importance of self-sufficiency in research and innovation to develop solutions independently rather than relying on others.

COVID highlighted the need for independent healthcare capabilities to maintain services during crises. It also underscored the shift to digital healthcare, showing that e-health and digital solutions can enhance healthcare outcomes. Additionally, the pandemic demonstrated the importance of wellness and preventive care, leading to the establishment of initiatives like Quality of Life, which encompasses sports, nutrition, and overall healthy habits.

To prepare future healthcare providers, universities now have a mandate to incorporate these principles into our curriculums. This initiative is not only for medical students but for all students – promoting a national awareness of wellness and preventive health measures.

How do you collaborate with industry stakeholders to prepare students for real-world applications in healthcare settings, business, and beyond?

Education should not be designed solely by educators. Developing a curriculum that meets learning outcomes and objectives requires input from end users and stakeholders. At Alfaisal University, we involve both the government and private sectors in curriculum development. They help us understand the knowledge and skills they expect from graduates, ensuring our students are well-prepared and productive in their future careers.

One key aspect is our co-op programs. Recently, the Ministry of Education in Saudi Arabia mandated that every college must have at least seven months of co-op programs. This initiative aims to bridge education with the job market and address human capital needs. In the College of Medicine, this naturally includes a one-year internship. Other colleges also incorporate co-op programs to provide practical experience.

Additionally, we recognize that healthcare professionals have diverse career paths. They can be regulators, innovators, or work in industry roles, not just as practitioners in hospitals. Our curriculum is designed to offer students opportunities to explore various career options and understand the broader healthcare ecosystem. This comprehensive approach ensures that our graduates are well-rounded and prepared for a variety of professional environments.

With over 40 nationalities represented among students and faculty, how do you continuously attract high-potential students and talented academics both locally and internationally?

I believe one of the key initiatives that Alfaisal has implemented is the Office of Sustainability and Strategic Planning. We take pride in our international reputation, educational quality, and research standards. However, it’s crucial to sustain and enhance these achievements in the face of future challenges. This requires continuous strategic planning and investment to maintain and improve our standing.

The UN has outlined 17 sustainability goals, many of which are relevant to universities, including gender equality, empowerment of women, and quality education. In addition to these, we focus on retaining top faculty, attracting talented students, and continuously updating our curriculum to meet market demands and future human capital needs. We recognize that the jobs of today are evolving rapidly, and the Office of Sustainability plays a pivotal role in addressing these changes to ensure our programs remain relevant.

Furthermore, this effort extends beyond the university itself to government support. The Saudi government shares our commitment to healthcare and education, aligning with our mission to excel not only in economic growth but also in various sectors. We have witnessed notable successes in healthcare, and we anticipate similar achievements in education, particularly in healthcare education, in the near future.

Given Saudi Arabia’s goal to retain and build its own talent, how do you address the challenge of potential brain drain and ensure that developed talent remains in the country?

I feel that Saudi Arabia, along with the Ministry of Education, has embarked on a significant initiative known as the International Scholarship Program, initially launched under the King Abdullah Scholarship Program. At its peak, this program sent over 140,000 students to top universities in the US and other parts of the world, including myself. This has greatly enhanced our human capital capabilities and contributed to the talent pool we see today.

Addressing the challenge of potential brain drain is indeed crucial. Our data indicates a high retention rate, with very few individuals choosing to leave compared to global averages. This can be attributed to the social fabric of Saudi culture, the stability of the country – both politically and economically – and the opportunities provided to returnees to take on leadership roles, pursue clinical practice, innovate in healthcare, and advance their careers.

It’s essential not only to attract talent but also to nurture it by facilitating their professional development and supporting their innovative endeavors, particularly in healthcare. While brain drain is a concern for many developing nations, Saudi Arabia has managed to mitigate this through its supportive environment and ongoing national initiatives like Vision 2030. This visionary plan has been steadily progressing year by year, turning ambitious goals into tangible achievements across various sectors, including healthcare, sports, tourism, and more.

Universities like Alfaisal, the Ministry of Education, and the government collectively ensure that Saudi Arabia is seen as a place where individuals can thrive and realize their aspirations. Over the past five to six years since the inception of Vision 2030, we have witnessed rapid advancements, particularly in healthcare accessibility and patient care, which are integral to establishing our healthcare system as a regional leader.

What are your goals and aspirations for Alfaisal University in the coming years, and what are you most excited about for the future of the institution?

Firstly, we aim to elevate our university into the top 100 globally, particularly in healthcare education. Additionally, we aspire to position King Faisal Special Hospital among the top ten hospitals worldwide. Furthermore, we are dedicated to developing our Biotechnology City into a leading global hub for biotech innovation. While these goals are challenging, the support from the

government, both logistically and financially, makes them achievable.

I’m particularly excited about how the world views Saudi Arabia today as a land of opportunity. Many talented individuals are eager to join us in pioneering this transformation and becoming the founders of new initiatives. I encourage our faculty to see themselves as pioneers and leaders within their departments, knowing that they are contributing to a success story that they can proudly claim as their own. This sense of ownership and contribution is invaluable and will undoubtedly be recognized by history.

I would also like to point out how Saudis are increasingly engaging with healthcare across various sectors: pharmaceuticals, industry, services, and education. I am pleased to see these pillars progressing simultaneously and synergistically. This holistic approach to healthcare, integrating aspects like environmental sustainability, agriculture, manufacturing, and business innovation, is pivotal. Healthcare today is more than just patient care; it encompasses a comprehensive approach that we are actively fostering and developing.

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