

THE RIGHT PRESCRIPTION FOR HEALTHCARE INNOVATION

Bringing research ideas to life is not easy; for every patent considered for commercialization, there are thousands more that never see the light. Considering the usefulness of a patent and its wider public value is key.

Nanomedicine delivery for targeted treatment, stem cell studies to unlock genetic mysteries, no-frills biosensors to monitor and treat chronic diseases; the medical field has developed in leaps and bounds during the past few years. None of this, however, would have been possible without heavy and sustained investments in research and development (R&D) in an industry that is continuously improving and evolving. The outcome will be patients receiving better healthcare and treatment for chronic and life-threatening diseases. When directed to the fields that are of broader value to the community, the return on investments in the medical sector can be significant, both in financial and societal terms.

The impact of R&D and innovation in the field of biotechnology and biopharma is definitely good news for the patient, but

it also reflects positively on economic indicators of a country, and pushes it toward a knowledge-based economy. Saudi Arabia spends \$44 billion on health and social care annually, according to KAIMRC's Head of Strategy and Business Development, Abdelali Haoudi, and R&D is a key area where spending should be directed.

"Technology, like robotics and AI, has a large role in developing medical research and we encourage researchers to make the most of the latest advances," said Bandar El Knawy, CEO of the Ministry of National Guard Health Affairs and president of the King Saud bin Abdulaziz University for Health Sciences. "We need research that yields effective results to make a place for Saudi Arabia on the international medical research map, focusing on technology."

For R&D to make a sound return on investment, and have a true impact on the economy, scientists need to consider the commercial applicability of their project and how to achieve it. "A research's aim doesn't stop at publication only, the purpose should be bigger; research that transforms into a product of use in daily life," said Ahmed Alaskar, executive director of KAIMRC.

"Commercialization is a science by itself," said Abdulmohsen Almajnoui, CEO of Research Products Development Company (RPDC), a company specialised in providing support to commercialization of R&D. Filing patents is compelling, but what's more important, speakers argued, is how to bring those ideas to life. "We file hundreds of patents, but so what? It took a company like Uber or Careem one patent," Almajnoui added. Paolo Martini, general scientific manager for rare diseases at the biotechnology company Moderna Therapeutics agreed, adding that "behind one patent, there are thousands of studies to make it viable." Commercialization, however, is not an easy task, Almajnoui explains that only 4-5 percent of patents will be considered for the cycle of commercialization. Of those, only 10 percent will be considered for investment.

To bring ideas to life, scholars need to also think of how their research impacts society, to raise interest from the public, stakeholders and policymakers. "If you

want to start up a biotechnology company, look for [something of] value to the broader public, and not just a niche,” said Fatima Cassim, cluster director for the Middle East and Africa at AstraZeneca, a pharmaceutical and biopharmaceutical company based in the United Kingdom.

Prospects for KSA

“KSA is a country we’re very excited about,” said Ben Stewart, manager of development for Eastern Europe, the Middle East and Africa, at Roche, the Swiss healthcare giant. Although the kingdom has taken significant strides in the medical field recently, there are still areas ready for development. Almajnouni, for instance, recommends more investments in vaccine and biopharma.

Collaboration between the industry and academia, for one, is essential to bring ideas to life and maximize its potentials and benefits to the community. “Form the right alliances, earlier on, to have backing, capabilities and know-how,” Cassim advises researchers. Research can no longer happen in siloes in universities and medical research centers, judged only on publishing value, argued Hisham Al Hadlaq, director general of

the Research and Development Office at the Ministry of Education. “Now, we look at the impact [the research has] on the national economy, pushing the wheel of development in key areas,” Al Hadlaq said. “For research to have an impact on healthcare, for example, it needs collaboration and availability of relevant data from concerned entities.”

Anas Al Hunaihin, director of Badir Biotechnology, a biotechnology incubator, said that finding the right partners is essential. “The partnership has to be mutually beneficial, so a potential partner needs to be within the same size and region, Al Hunaihin added. Once the suitable partner with a proven track record has been selected, trust is key to advancement, advised McNeil.

One way to forge a collaborative environment between academia and industry is through a biopharma cluster that is close to researchers and universities, Cassim said. There is an ongoing Ministry of Health programme to promote expertise exchange between the medical industry and academia, and 43 research projects will be launched in 2019 under this programme, according to Athari Alotaibi, director of the General

Administration of Research and Studies at the Ministry of Health.

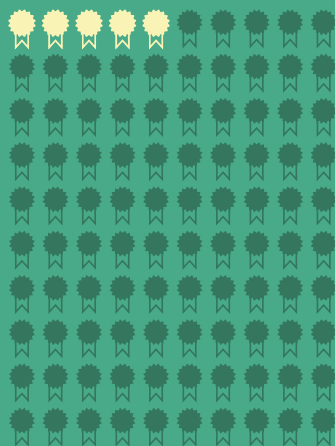
To encourage investors, the Saudi government offers loans of up to 75 percent, a 20 percent corporate tax and subsidized lands to advance the development of the biopharma and biotechnology sectors. More collaborations, however, between the government and other stakeholders involved in the field are needed.

Another key recommendation to increase the commercialization potentials of the various research projects conducted in the kingdom and elsewhere is developing the researcher’s business and economic skills. “We’re lacking entrepreneurial skills and activities that we’re starting to focus on with Vision 2030,” said Almajnouni. Researchers, for instance, also need to learn to market their research on relevant platforms, and using the right tools to promote their research.

But, above all, an innovative idea for a project is the cornerstone to its success. Steward argued that any opportunity to make something work better is an opportunity for innovation. Similarly, Martini advised researcher to “focus on the idea, the uniqueness of the idea, and everything else will come together.”

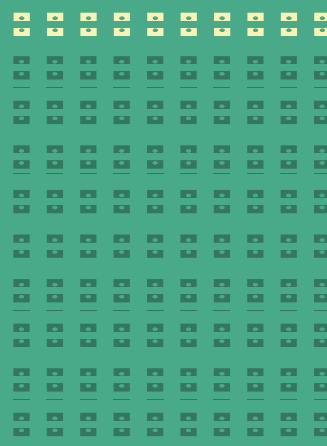
THE ROAD TOWARDS COMMERCIALIZATION

The road for a patent to be considered for investment is a long one. Along the way thousands of papers never make it to the patent phase, and even less papers reach the point of being considered for commercialization.



Patents

Only 4-5% of patents will be considered for commercialization.



Investment

Only 10% of patents considered for commercialization will be considered for investment.