

Navigating The Landscape Of Innovation & Entrepreneurship In Pakistan: A Review

Muhammad Iftikhar Hanif¹, Asif Maqsood Butt², Omaina Asif³

Abstract

This letter explores the concepts of innovation and entrepreneurship and how they work together to promote economic progress. Despite its challenges, Pakistan may prosper in these fields thanks to its large and growing market, skilled labour force, and supportive political environment. However, for innovation and entrepreneurship to live up to their potential, several problems need to be resolved, including bureaucracy and corruption, poor intellectual property protection, inadequate research and development, and limited access to capital.

In the medical device industry, innovation and entrepreneurship may drive progress as new technologies and opportunities for expansion and improvement can be developed. Getting finance, negotiating legal and regulatory environments, managing new trends and technologies, The potential for coordinated effort and organisation, and laying the basis for a flourishing enterprising biological system in Pakistan are points shrouded in this letter. The letter makes various significant proposals for Pakistani entrepreneurs who must work on their odds of coming out on top, including making a strong marketable strategy, finding finance sources, interfacing with others and cooperating, using innovation, and being versatile. Pakistan can lead the way nearby for advancement and business, setting the way for monetary development and improvement, with continuous endeavours and participation.

Keywords: Innovation, Entrepreneurship, Economic growth, venture, Value, Workforce, Research and development, Medical device, Networking, Technology, Adaptability, Success.

¹ Professor of Orthopaedic, NUMed University, Malaysia; ² Manager ORIC, Rawalpindi Medical University, Rawalpindi; ³ Assistant Director, Medical Education Department, Rawalpindi Medical University, Rawalpindi.

Correspondence: Dr. Asif Maqsood Butt, Manager ORIC, Rawalpindi Medical University, Rawalpindi. Taxila. Email: rcap2017dme@gmail.com

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1. Introduction

New concepts must be developed, prototyped, tested, and refined until they are suitable for commercialization.¹ asserts that innovation has the potential to significantly contribute to economic growth due to its capacity to expand market opportunities, raise productivity, and improve efficiency and competitiveness. According to research, innovation can help businesses keep a competitive edge by creating new goods and services, streamlining operations, and figuring out more effective methods to satisfy customers.^{2,3} Additionally, innovation can raise living standards, develop new markets and businesses, and promote societal progress.^{4,5} In general, innovation is essential for promoting economic growth and raising both individual and societal standards of living.

According to research by Global Entrepreneurship in 2020⁶, entrepreneurship is seen as a key factor in economic growth and employment creation, especially in emerging nations. The research stresses the importance of policies and infrastructure that support entrepreneurship while also highlighting the

positive effects of entrepreneurship on innovation, productivity, and competitiveness. According to a study by ⁷, entrepreneurial activity is also favourably correlated with economic growth, particularly in nations with strong levels of innovation and human capital. The study emphasizes the significance of creating an environment that is conducive to entrepreneurship, including financial access, educational opportunities, and regulatory frameworks that reward creativity and take calculated risks. According to a study by ⁸, social and environmental factors are also crucial in influencing entrepreneurial behaviour, emphasizing the importance of Innovation as a critical catalyst for entrepreneurial activity, thus innovation and entrepreneurship have a close relationship. Innovations create market opportunities that entrepreneurs frequently leverage to establish new businesses or improve existing ones. Successful entrepreneurs are also typically innovative in identifying novel ways to offer value to customers and solve problems in unique ways ⁹

Governments and policymakers around the world recognize the importance of innovation and entrepreneurship and are adopting policies and

programs to support their growth. Possible measures include tax incentives, grant programs and research and development efforts. Additionally, many universities and research institutes develop innovation and entrepreneurship programs that encourage the creation of new ideas and businesses.¹⁰

Pakistan is a country with immense potential for innovation and entrepreneurship, but some challenges need to be addressed to create a more favourable environment for its development. Some of the innovation and entrepreneurship challenges and opportunities in Pakistan are listed below:¹¹

Access to capital: Access to finance is a major challenge for start-ups and entrepreneurs in Pakistan, especially for women. Banks are often reluctant to lend to startups, and the country lacks venture capital and angel investors.¹² Startups are improving day by day, but most of them fail at the same pace. Unemployment is a major problem worldwide due to the exponential growth of the population. But vacancies are not filling at the same rate as the general population, and unemployment is becoming an increasing drag on the economy. This situation gave rise to a framework that promotes individual independence and respect for one's own life.¹³

Pakistan's computerized economy is expected to undergo similar developments As for India, we have five or six years to spare. From this, we can conclude that: Pakistan's advanced economy has immense potential and is expected to develop at an extraordinary rate It will be under development in the next 5 years. This paper provides a map of Pakistan's universal subject, fruitful neighbourhood business, and A rising star from a completely different area of the industry.¹⁴ **Weak intellectual property protection:** Pakistan's intellectual property laws are not as stringent as in other countries, which can make it difficult for entrepreneurs to protect their innovations and prevent others from copying their ideas.¹⁵ **Limited R&D:** Creating a culture of innovation in Pakistan requires increased investment in R&D. **Bureaucracy and Corruption:** Pakistan's bureaucracy is cumbersome and time-consuming, which can make it difficult for entrepreneurs to obtain the necessary licenses and permits to start and run a business. Corruption is also a major challenge and can create further barriers to entrepreneurship.¹⁶

The Government of Pakistan has implemented several policies and initiatives to promote entrepreneurship

and innovation, including tax incentives, support programs and technology incubators.¹⁷ **Large and Growing Market:** Pakistan's large population of over 220 million people makes it an important market for new products and services. **Youthful and Educated Workforce:** Pakistan has a growing youth population, many of whom are well-educated and possess the necessary skills to succeed in entrepreneurship and innovation. **Government Support Policy: The Rise of the Middle Class** ¹⁸ The rise of the middle class in Pakistan is creating new opportunities for companies serving this class, such as e-commerce and consumer goods.¹⁹ **Emerging Technologies:** Pakistan is well positioned to benefit from emerging technologies such as Artificial Intelligence, Blockchain and the Internet of Things that can create new opportunities for innovation and entrepreneurship.²⁰ In summary, while Pakistan certainly has challenges for innovation and entrepreneurship, it also has many opportunities for growth and development. By addressing these challenges and capitalizing on these opportunities, Pakistan can create a more vibrant and dynamic ecosystem for innovation and entrepreneurship.²¹

Paving the way for a thriving entrepreneurial ecosystem in Pakistan requires a coordinated effort by government, industry and academia.²² To foster the growth and sustainability of start-ups, Pakistan needs to develop policies and programs that encourage innovation and entrepreneurship, including building networks, supporting human resource development and providing access to capital.²³ The Government's Startup Pakistan and Prime Minister's Young Entrepreneurship Initiatives, along with private sector efforts, have contributed to a favourable environment, but challenges such as access to finance and infrastructure constraints have yet to be overcome.²⁴ Pakistan has taken steps to encourage entrepreneurship through supportive startup growth policies and programs. However, financial access, legal restrictions, and infrastructure limitations remain barriers that need to be addressed. Further efforts and cooperation are needed to meet these challenges.²⁵

Global Innovation Index 2022; In 2022, Pakistan will perform better in innovation output than innovation input. This year, Pakistan ranks 111th in innovation input, 2021 and she surpassed 2020. Pakistan ranks 6th out of 10 countries in Central and South Asia. Pakistan scores above the lower middle-income

average in three of her categories: achievements of knowledge and technology.²⁶

The way to foster a culture of innovation is to get involved with the domains for which the innovation is been created, most of the inventions in health care are developed by engineers but the idea they got to have a variety of sources, secondly the designing, clearing concepts, cleaning the idea steps towards maturation of idea; these steps are mostly carried out through the assistance and academic support from medical students or doctors with the engineers. The point is that it is the distribution of credit among all contributors and their position in the final patent as well as commercialization process. Even a small token of appreciation takes the dedication and passion of contribution very high and anchored loyalty with the national hard work.²⁷

The undergraduate students should be sensitised to innovation and entrepreneurship lectures/seminars/workshops and conferences to boost their insight about innovation and entrepreneurship.²⁸

The authors are working on the concept and idea of linking engineering universities with medical universities. So, to foster a culture of innovation and entrepreneurship amongst medical students and faculty of medicine and allied health sciences. (Figure 01(a)(b): undergraduate road map of academic innovation in medical students); There is another idea on which the authors are working is the academic cultivation of innovation & entrepreneurship by linking engineering, informatics, biomedical, environmental sciences and other social sciences with Medical & Allied Health sciences.²⁹

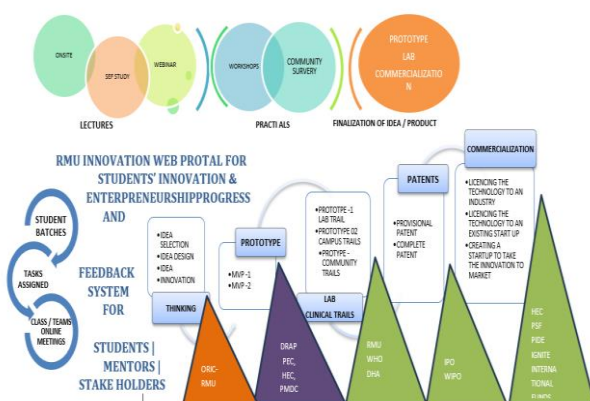


Figure 1(A): Undergraduate Road Map Of Academic Innovation In Medical Students



Figure 01(B): Undergraduate Road Map Of Innovation Projects In Medical Students

Recommendations:

Improved Admittance to Capital:

Carry out measures to further develop admittance to fund new businesses, especially for ladies' business visionaries. Support the foundation of investment assets and private backer organizations to give subsidizing valuable open doors to imaginative endeavours.

Fortify Licensed Innovation Assurance:

Upgrade protected innovation regulations and implementation components to defend advancements and boost business. Offer help and assets to teach business visionaries about the significance of protected innovation freedoms.

Support Innovative work (Research and Development):

Increment interest in Research and development foundation and make motivators for organizations to participate in the creative examination. Encourage cooperation between the scholarly community, research establishments, and enterprises to advance information movement and development.

Smooth out Regulatory Cycles:

Improve administrative methods and lessen regulatory obstacles for beginning and working organizations. Execute straightforward and proficient authorizing and license cycles to work with business.

Advance Cross-Disciplinary Coordinated effort:

Cultivate coordinated effort among designing and clinical colleges to animate advancement in medical care and related fields. Coordinate development and business venture instruction into undergrad educational programs across disciplines to develop a culture of development.

5. Conclusion

Advancement and business ventures are fundamental drivers of monetary development and cultural advancement. Pakistan holds colossal possibilities around there, yet faces moves like restricted admittance to capital, feeble licensed innovation assurance, and administrative failures. To beat these difficulties and

exploit amazing open doors, coordinated endeavours are expected from government, industry, the scholarly world, and the more extensive local area. Proposals incorporate upgrading admittance to back, reinforcing protected innovation regulations, supporting interest in Research and development, smoothing out regulatory cycles, and advancing cross-disciplinary coordinated efforts. By carrying out these actions, Pakistan can make an energetic biological system that encourages advancement and business, driving monetary turn of events, and further developing ways of life for its residents.

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M.I.H, A.M.B, O.A - Conception of study

M.I.H, A.M.B, O.A - Experimentation/Study
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