WHITE PAPER
Innovation, Entrepreneurship & Startups
Nation Ahead Program

GLF Business School

Accelerate
The Growth of Innovation & Startups
Through Partnership

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Index:

Foreword

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The global economic crisis has increased the urgency for India to identify new sources of growth and develop a sustainable path to economic success.

Traditional reliance on natural resources is insufficient to support long-term growth. Only through innovation and entrepreneurship the nation shall be able to enhance competitiveness, diversify regional economies, and realize all the benefits of the rapidly expanding knowledge-economy.

A strong governmental commitment to promote technology research, innovation, and development of startups is one of major critical elements in India favoring the acceleration of economic growth.

Integration of available pool of knowledge and resources through collaboration between different institutions and agencies across the country shall benefit to increase in the pace and quality of innovations, as well as macroeconomic payback in terms of per-capita GDP growth, job creation, and rapid improvements in labor and total factor productivity.

GLF Business School acts as catalyst to build a common platform of all the stakeholders of startup ecosystem and help nation to develop a sound foundation for growth.

Through the Nation Ahead Program, we are closely working with local ecosystems to build regional innovation and entrepreneurship hubs aiming at improving lives and generate economic prosperity as a first step to a national consortium for innovation and entrepreneurship centres.

This paper offers direction to a better mutual understanding as a basis for successful collaboration. The rapid growth of startups and the enthusiasm of young entrepreneurs in India give a new ray of hope to ignite it further through collaborations and cooperation.

The new path through partnership between the stakeholders could become India’s strong point to mitigate all constraints and accelerate growth for a better future.

Context

Strategic Inflection Point Creates Opportunity

India is in the midst of a strategic inflection point (Figure 1) and sets a target of taking the economy to USD 5 trillion by 2024.

India's GDP is currently estimated at around USD 2.8 trillion and GDP growth is seen dipping to an 11-year low of 5 per cent in the current fiscal. At this critical moment, country can choose to pull back, retrench, and focus on old-world business models, or can choose to move forward, invest in the future, and accelerate entrepreneurship.

The current strategic inflection point has arisen in part because economic globalization and advances in technology have significantly increased market competitiveness. Product life cycles are shorter, production costs are lower, and market demands change faster than ever before.

In this environment, innovation—the introduction of a new or improved product, process, or method—is essential to drive growth, competitiveness, and employment. Innovation has to be actively encouraged and supported, in part because the pace of innovation continues to accelerate around the world.

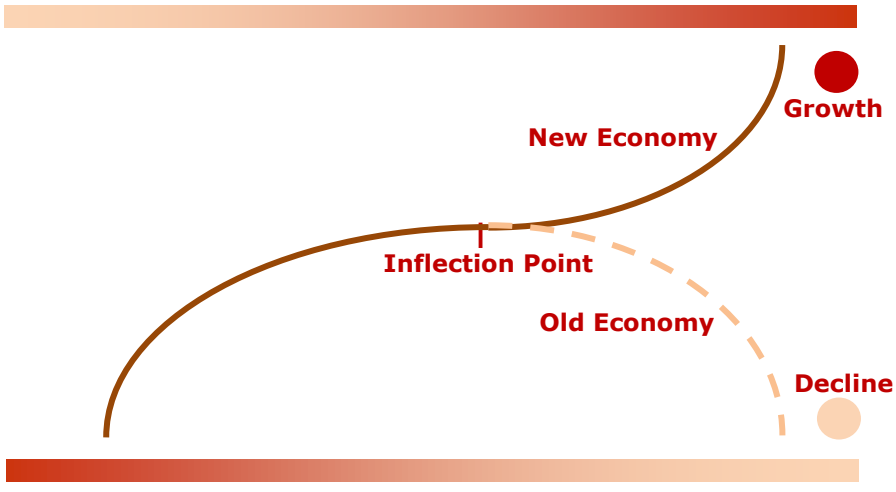
To keep pace, India needs to use technology to facilitate rapid development and distribution of new products and services to the global marketplace. The benefits of innovation are undeniable.

Innovation helps governments operate more efficiently, providing a higher level of service and better use of taxpayer funds. Citizens also benefit directly from social and economic improvements driven by innovation. However, for India to achieve these benefits, the innovation and startup ecosystem must act now, during the current strategic inflection point.

Figure 1.
Strategic inflection point [1]

Changing Environment:

- Economic downturn
- Rapid socio-cultural and political changes
- Increased technology access and use
- Greater market competitiveness



Entrepreneurship Leads to Economic Growth

A recent UNCTAD report showed that the right kind of innovative small businesses can bring economic growth.[2]

Sustainable Development, Structural Transformation & Entrepreneurship

The concept of sustainable development links three dimensions of sustainability — economic, social and environmental — and the 2030 Agenda emphasizes the unity of, and mutual support between, these dimensions.

UNCTAD has long emphasized the importance of economic structural transformation to poverty eradication and long-term development. Structural transformation refers to the transfer of production factors — particularly land, labour and capital — from activities and sectors with low productivity and value added to those with higher productivity and value added, which are typically different in location and organization, as well as technologically. This process allows an economy to continually generate new dynamic activities characterized by higher productivity and greater efficiency.

Entrepreneurship, in particular through its innovative dimension, can make an important contribution to structural transformation in several ways. Entrepreneurial activity directly contributes to economic growth by stimulating job creation, improving skills and encouraging technological innovation, and can increase productivity by encouraging competition.

First, it is an important mechanism for shifting productive resources from economic activities with low value added and productivity to those with higher value added and productivity, whether in agriculture, industry or services.

Second, it can stimulate investment and contribute to building a knowledge-driven economy, which plays a central role in economic growth.

Third, even unviable innovations in production that introduce goods, services, production technologies or business models that are new to a particular setting may provide valuable information for future entrepreneurial decisions, including those of other entrepreneurs, in the form of cost discovery.

Differences in the level or types of entrepreneurship can have a significant effect on economic performance, and control for the traditional factors of production, namely land, labour and capital. Along with the benefit of increased incomes, economic growth is an important element of structural transformation. However, different types of entrepreneurs and firms vary in their contributions to structural transformation and economic growth. In particular, dynamic, opportunity driven entrepreneurship may have significant positive effects in this regard, while survivalist entrepreneurs by necessity are typically less innovative, operate mostly in low productivity and low value added activities and produce traditional goods and services with established technologies.

> "Transformational entrepreneurs create new products and business models; they offer dignified employment; their success leads to broader improvements in the quality of life and even bolsters fiscal sustainability. Dynamic entrepreneurs also make a greater contribution to wealth accumulation and distribution."
>
> **Mukhisa Kituyi**
> Secretary-General of UNCTAD

Technology Is Critical to Economic Growth and Innovation

As the Organization for Economic Cooperation and Development (OECD) points out, some countries are already tapping into this growing global marketplace, and leading the innovation economy.

Innovation is now the main driver of growth in many countries. Differences in multifactor productivity, which is driven by innovation and improvements in efficiency, account for much of the overall gap between advanced and emerging countries. [3]

Technology is one of the most important elements in building a platform for entrepreneurship and innovation. The positive contribution of technology to economic growth and innovation in emerging and advanced countries has been repeatedly established through both quantitative and qualitative research. On a macroeconomic level, technology usage has been shown to be correlated with global competitiveness, total factor productivity growth, increases in GDP, and many more direct economic benefits.

Market is Key Factor to Commercialize Innovation

Market and types of innovations are two essential factors to be considered carefully while commercialize technology innovation.

Figure 2 below shows the relationship between different types of innovation and market.

Startup entrepreneurs must plot their products in this matrix to develop the business models and right strategies.

- **Disruptive Innovation** disrupts an existing market and value network, displacing established market-leaders with new technology.
- **Incremental Innovation** utilizes existing technology and increases value to customer within existing market.
- **Radical Innovation** gives birth to new industries and involves creating revolutionary technology.
- **Architectural Innovation** takes lessons, skills and overall technology and apply them in a different market. It is reintroduction of proven technology and requires tweaking to match requirements of new market. This innovation is amazing as long as new market is receptive.

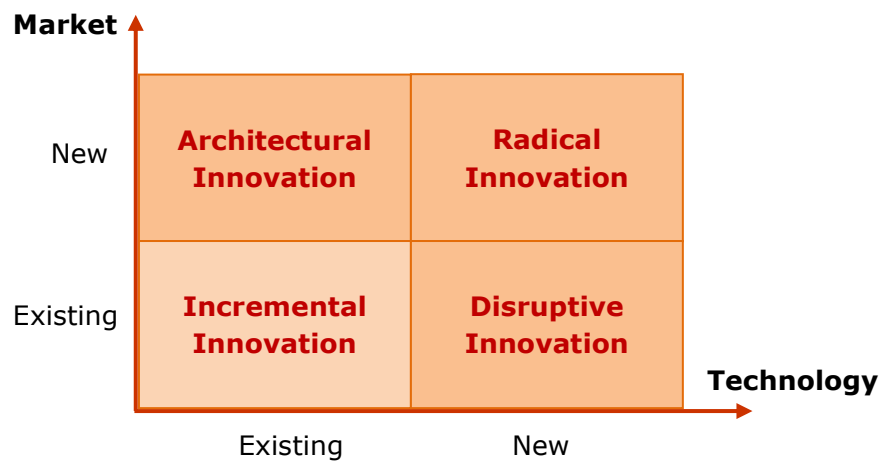


Figure 2.
The Key Success Factor of Technology Commercialization

Economic Potentials of Technology

The relentless parade of new technologies is unfolding on many fronts. Not every emerging technology will alter the business or social landscape—but some truly do have the potential to disrupt the status quo, alter the way people live and work, and rearrange value pools. It is therefore critical that business and policy leaders understand which technologies will matter to them and prepare accordingly.

Disruptive technologies have the power to transform life, business, and the global economy. A 2018 report from the McKinsey Global Institute identifies 12 technologies that could drive truly massive economic transformations and disruptions in the coming years.

Disruptive technologies have the power to transform life, business, and global economy

According to data from said McKinsey study, a dozen technologies, including genomics, energy storage, and automation, will drive major economic and societal transformation in the next several years.

The value of emerging technologies could constitute one third of global GDP with a potential economic impact between $14 trillion and $33 trillion a year in 2025.

Value of emerging technologies could constitute one third of global GDP by 2025

As India embraces such tech-driven economy, academic institutions must change, too, at a pace unfamiliar to higher education. While we retain our core mission of educating the next generation and cultivating new forms of knowledge, universities must also embrace our ever-expanding role in driving innovation and catalysing economic development.

Our institutions must meet the challenges of the technology revolution head on, and play an increasingly important role in our innovation ecosystems and economics.

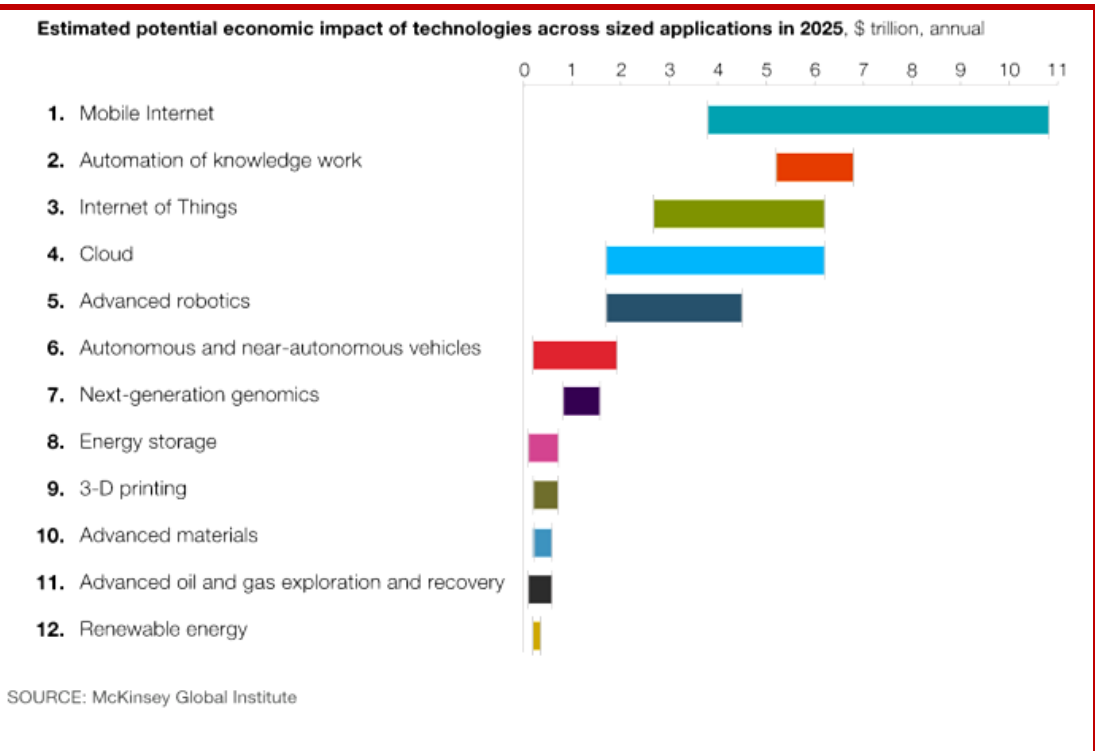
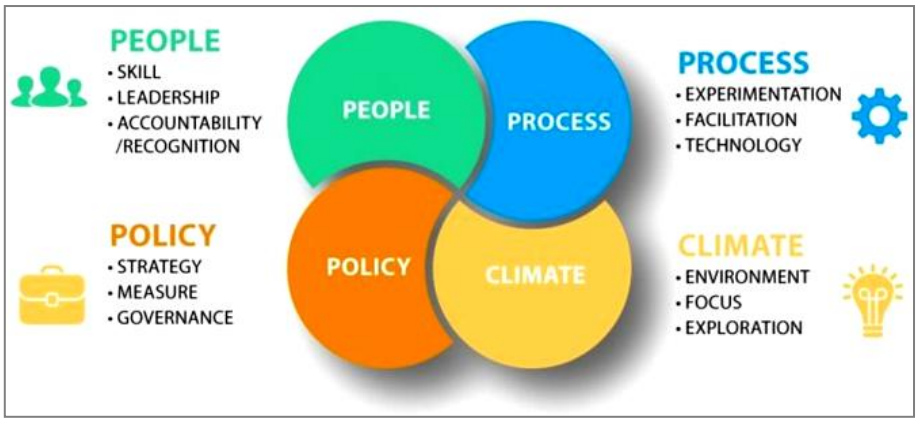


Figure 3.
Top 12 technologies with potential economic impact [4]

Innovation Ecosystem

An innovation ecosystem is made up of different actors, relationships and resources that all play a role in taking a great idea to transformative impact at scale. The effectiveness of each part within the innovation ecosystem is moderated by other parts of the system. The change to one part of the innovation ecosystem leads to changes in other parts of the innovation ecosystem. Innovation ecosystems can operate at multiple levels and within multiple sectors. The four basic elements of the innovative ecosystem which comprise of people-policy-process-climate are shown in Figure 4.

Figure 4.
Elements of innovative ecosystem



Key Drivers of Innovation Ecosystem

The development of an innovation ecosystem is four folded:

1. Collaboration & Partnership

Academic institutions must develop new partnerships with leading companies, corporate foundations and other research-intensive institutions. These partnerships are not just about transferring knowledge from "Research-to-Business", they provide critical knowledge, cooperation, and funding to pursue applied research, enable students and faculty to exchange ideas with the very best minds inside and outside the institution, and help to prepare students to cope up with the rapidly changing world. The collaborations in the region shall build a network amongst institutions in common interest.

2. Technology & Society

Indian labour markets have evidenced impressive ability to absorb changes in technology, however, at a cost of inequality among our workforce. The labour economists predict that the next wave of disruptive innovation will continue to exacerbate this inequality. It becomes a challenge to ensure that technology will automatically benefit humanity and society. The ecosystem shall show the right direction, draw the map to alleviate inequality, and shall ensure the destination is designed for people as well as technology.

3. Economic Transformation

Technological innovations have the power to bring economic transformation. It is important to ensure that technical innovation which will lead to economic gains should be shared across the economy. The academia as major technology providers can play pivotal role to disseminate knowledge to all sections of the society irrespective of their academic qualification and other trait factors.

4. Fostering Entrepreneurship

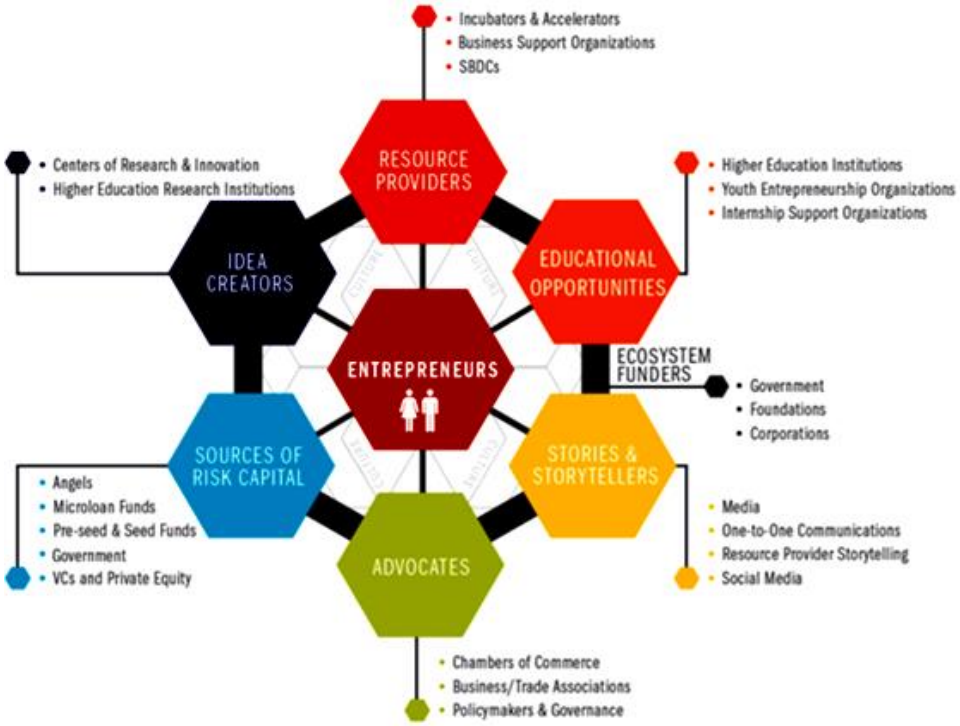
At a time when societal challenges are demanding discoveries at the intersections of diverse disciplines, fostering a culture of entrepreneurship is one of the most powerful ways where academic institutions act as economic accelerators. As the pace of discovery accelerates and global competition intensifies, institutions are embracing entrepreneurship, and creating cultures where innovative thinking is inspired and nurtured. It seems that no matter what field they study, students seeking a difference in society through start-ups, social entrepreneurship, and other ventures of their own creation should be encouraged. Same level of energy and excitement is to come from faculty, too, who now expect to develop new technologies or engage in startups as part of their academic career.

Building Startup Ecosystem

Startup ecosystems are popping up all across the country with varying levels of success. The mix of ingredients that are needed to make a startup ecosystem thrive over time. The blueprint to propel startup ecosystem at local level shall lead to success in the process.

Ecosystems are not built in years, they are built over decades. Silicon Valley's startup ecosystem has been working on it since 1970s, a fine tuned machine after 40 years of optimization.

Collaboration between all startup stakeholders with a shared set of common goals are precondition to build a robust startup ecosystem.



Key Access:

- Access to technology
- Access to great ideas
- Access to talents
- Access to capital
- Access to infrastructure
- Access to market
- Access to customers
- Access to media

Key Players:

- Entrepreneurs
- Mentors
- Investors
- Incubators
- University
- Corporation
- Associations
- Service providers
- Government

Key Strategies:

- Taking leadership
- Sharing a common goal
- Leveraging local strengths
- Aggregated start up density
- Collaboration across regions
- Measuring key metrics of progress
- Publicity

Figure 5.
Building startup ecosystem

The Process of Fostering Startups

The process of fostering innovation into startup business in ten building blocks is described in Figure 6. Every step of the process involves development of complex management models and strategy.

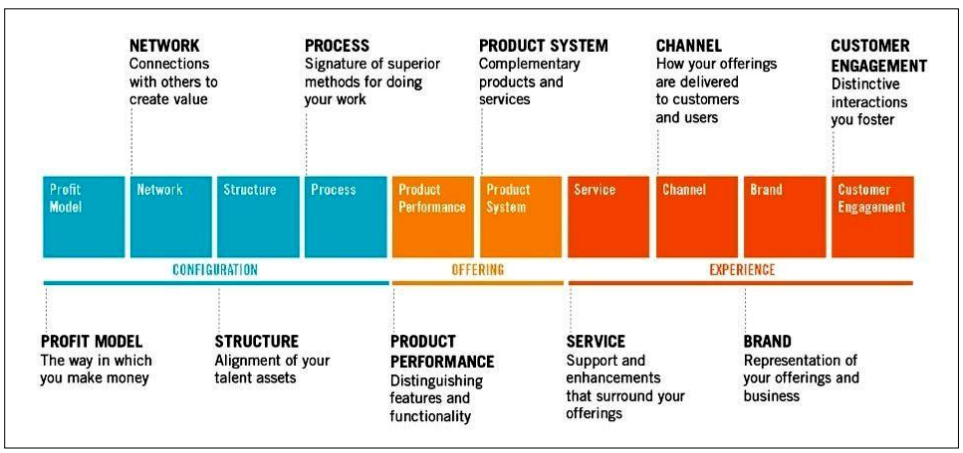


Figure 6.
Fostering Startups:
The Building Blocks

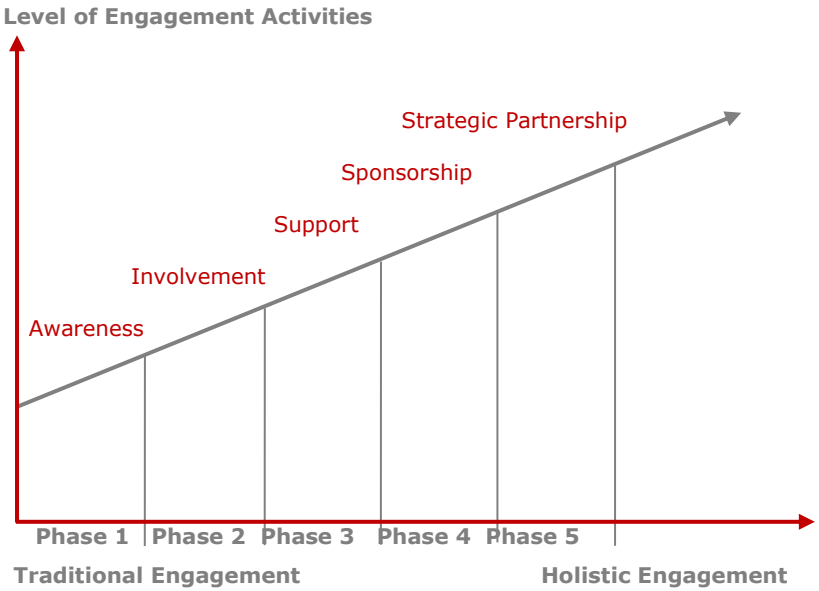
Partnership Continuum

The Partnership Continuum projects the breadth of partnership possibilities, reflecting the way in which many of the forms of interaction are interconnected. The various modes of partnership along the continuum are described in Figure 7.

The Partnership Continuum as a model can be used to explain how academia, industry, society, and government interact across the spectrum of partnership modes.

The Partnership Continuum will stimulate others to extend their current concepts regarding the meaning of "partnership" and identify new ways to partner with others to the maximum benefit of all involved.

Figure 7.
Partnership Continuum



Role of Academia

The educators have a singular responsibility to prepare all students and researchers for a rapidly changing job market, and to educate them to be the architects of the world in which we live. This is not an easy task in today's economy, when the future of work is changing faster than our old models of education can accommodate,. History tells us that those who prepare for the seismic shifts in work activities will have an immense opportunity to flourish. As stewards of the future of education, with access to immense intellectual resources and the influence to apply those resources to our core mission, university leaders have a leading role to play in helping the workforce adapt to these disruptive technologies, ensuring that the new economy works for everyone. Academia must play a committed role to addressing these challenges and seizing these opportunities by integrating resources and support from all available sources. To succeed, academia must ensure that talent from the diverse community has access to opportunity in the new economy. The process should lead to build an eco-system involving all stakeholders as mentioned in Figure 5 and bring them under one umbrella.

Synergy Through A2A Collaboration

Academia-to-Academia collaboration to foster entrepreneurship and innovation is the first step to build the micro-level ecosystem. The academic institutions shall complement and supplement to each other by sharing knowledge, technology, and resources in win-win condition. This collaboration starting from the regional level shall be connected with a large consortium at the national level involving all important institutions. It will enable us to strengthen the network, create a larger image, and strong bargaining power with government and industry. This model shall produce tremendous synergy and momentum to accelerate the start-ups and economic growth of the regions. While the Regional Centres shall aim at unlocking the regional potential, the National Consortium of Innovation & Entrepreneurship Centres shall focus on national and international level strategies and network to make the entire ecosystem robust and economically sustainable.

Fast Track Method to Accelerate Startup Growth

Startups shall be developed in two ways: first, by way of technology transfer from academia and second, new innovations through research.

The first one is easier and less time as well as resource consuming as the technology, proof of concept, and application is readily available with academia. Startup entrepreneurs may be encouraged to develop business model by using the technology already with academia and give best effort on commercialization. This is actually a direct method of "Academia to Startup".

The second route follows five distinct steps starting from the scratch: idea generation – technology identification - prototype – validation – commercialization. This is a traditional method of "Idea to Startup".

In both the cases Innovation and Incubation Centres under higher education institutions can play pivotal role to foster startups by providing technology; technical mentoring; management advisory on competitive dynamics, business models, and efficient project management; and administrative support as well.

Conclusion

In the era of global, fast-paced knowledge-based economy, universities and research institutes as major centres of learning and researches are becoming increasingly important as sources of ideas, knowledge, skills, innovation and technological advances. These ideas can be turned into new products, processes and systems. The ecosystem needs to drive national economics placing academia at the centre of the innovation systems. Commercialization of research outputs from academia to industry has become an area of strong policy interest in India. The higher education institutions generally have clear mandate for conducting research. However, not all institutions have innovation and commercialization as part of their strategic research plan. Fostering commercialization of academic research has become need of the hour. Majority of the research institutions may have guidelines on Intellectual Property Rights, however, academia-academia collaborations, and academia-industry linkages are to be improved. Since the policymakers increasingly view academia as engine of economic progress via commercialization of intellectual property through technology transfer, Central Government and many States are supporting establishment of more universities and research institutes and taking action to foster an enabling environment for strengthened academia-industry linkages. Regional Innovation & Entrepreneurship Centres shall act as catalyst to regional growth by establishing these linkages.

1 Only the Paranoid Survive: How to Exploit the Crisis Points That Challenge Every Company, Andrew S. Grove, 1999
2 Overview Entrepreneurship for Structural Transformation – Beyond Business as Usual, UNCTAD, 2018
3 The OECD Innovation Strategy: Getting a Head Start on Tomorrow, 2010
4 https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/disruptive-technologies

GLF Business School (GLFBS) is an autonomous Post Graduate College under West Bengal State University, a state public university. GLFBS offers management courses in a wide range of specializations both in functional management as well as industry aligned subjects. GLFBS has ranked amongst a leading Higher Education institutions in India and awarded consistently as Best B-School. GLFBS is pioneer in fostering Business Leadership model in Management education derived from our empirical research in five key areas: Innovative Leadership, Entrepreneurial Leadership, Strategic Leadership, Sustainable Leadership, and Ethical Leadership. GLFBS is proud to have a strong professional network with industry, academia, and government agencies and is also engaged in corporate training, consulting, and research since inception. It has handled more than 100 high-end consulting and research assignments and trained more than 1000 employees of government as well as corporate sectors. GLFBS has established collaborative associations with Higher Education Institutes of high repute and partnerships with leading Industry bodies. GLFBS has been recognized as one of the leading management colleges in India. GLFBS consistently own the Best B-School Awards in recognition for the excellence it strives thought leadership, academic excellence, learning innovation, applied research initiatives, using technology having social impact, and industry-academia interface.

GLFBS is the recipient of ASSOCHAM Best B-School Award 2017, 2018, and 2019, Technology Excellence Award For Social Impact 2018, The Innovative Institute Award 2018, Royal Excellence Award 2017: Best B-School. GLF Business School ranks amongst Top–10 Business Analytics Institutions in India (Higher Education Review, Bangalore, 2018).

GLFBS runs Technology Innovation, Skill & Entrepreneurship Centre (TISEC) with a clear mandate to act as an incubation centre. The objective is to integrating science and technology with management and to convert innovations into successful business ventures. The centre facilitates the start-ups in different thrust areas with the access of physical and intellectual resources as well as access to market. It provides support to foster innovation and entrepreneurship and speedy development of the innovation and startup ecosystem conducive to the economic growth. It also actively engaged in building a robust network involving academia, research institutions, industry, financiers, legal experts and other professionals, as well as government agencies.

The entrepreneurs are offered management courses and training programs in different areas such as Business Strategy, Innovation and R&D Management, Entrepreneurship Management, Legal and IPR, Project Management, Machine Learning etc. to build necessary cohesiveness with commercialization of business ideas. It provides a platform of getting advisory services from the mentors and industry experts through Business Clinics as well as opportunities to have meeting with the investors and prospective customers on the other hand. Linkages and strategic collaboration with technology providers, research institutions, industry bodies, financial institutions, and government organizations are some important functions of the Centre.

The "Skill for Life" project is a social outreach program of the centre for livelihood development of the underprivileged rural and urban youth in certain skill sectors. The underprivileged youth in this project are provided rigorous skill training in certain areas to make them fit for the industry and start-ups.

The centre acts as a catalyst to the technology transfer to ease the start-ups and organizes Innovation & Entrepreneurship Conferences regularly across the country to foster innovation and entrepreneurship amongst the young people in India.

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