Entrepreneurship for Economic Development in India

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Abstract:

This article describes concepts, learning perspectives, and views on entrepreneurship and its contribution to Indian economy despite the pandemic. Entrepreneurship is required for economic development, job creation, wealth building, resource sharing, fulfilling social responsibility, personal satisfaction and for achievement feeling. There are different sectors in which new startups are coming in India. The variety, verticals, portfolio of services, variety of products and industries are growing with innovation. This article based on secondary research describes entrepreneurship, different sectors, lean startup methodology, Identifying Products and Services, Market Research, Startup development, Funding, Technology Transfer, Factors Impacting Technology Transfer, MSMEs, Green Technologies, 21st Century Employee and Success Factors of Startups.

Keywords: Entrepreneurship, Entrepreneur, Startup, Technology Transfer, MSME, Success Factors, Market Research, Products and Services

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Introduction:

Entrepreneurship helps economies. Only governments across the world can't provide the entire employment; hence entrepreneurship fills this gap and helps in employment generation, and overall economy. Entrepreneurship in India contributes to the movement of self-reliance, that is, *Aatmanirbhar Bharat.* For economic development, any country requires job creators, wealth creators and intellectual asset creators and knowledge creators in different sectors. This requires observing the trends and economic growth sectors in several countries. As the time moves on

some sectors and disruptive technologies create new industries and avenues such as mobile industry and payments industry. Some industries become redundant or outdated. Some industries grow horizontally and the intersection of industries become blur with the advent of technologies and automation. Following sections in the article discuss Entrepreneurship, Lean Startup Methodology, Identifying Products and Markets, Product Development, Services, market research, Startup Development, Funding, Technology Transfer, Factors Impacting Technology Transfer, MSMEs (Micro, Small and Medium Enterprises), Green Technologies, Human in Entrepreneur, Industry and Labour Relations, 21st Century Employee, Incubation Center, and Success Factors of Startups.

Entrepreneurship: comprises innovation management, business model development, emerging technologies, proof of concept, business plan, accounting, managing intellectual property such as patents, trademarks, copyrights; marketing, finance, lean methodology for startups and valuation for startups. Entrepreneurship evaluates whether team is required, tests product developed and test markets the product as well. Social entrepreneurship is also part of economy. Entrepreneurs should have risk taking ability. IPR (Intellectual Property Rights) is the way to protect entrepreneur's intellectual property such as patents, copyrights, and trademarks. The mantra for *Entrepreneurship* is:

"Think Big ➔ Start Small ➔ Make a Mistake ➔ Learn ➔ Then Grow Slow ➔ Grow Really Fast"

Lean Startup Methodology: Think Big, Start small, Make Everyday Successes/Progress, Make Mistakes, then Learn, then grow, and finally grow really fast. It is best practice to focus on your strengths rather than on weaknesses. Successful entrepreneurs setup ventures in areas such as Consumer Electronics, Artificial Intelligence, Healthcare Automation, and Food Science etc. Steps for Progress of a Startup are shown in Figure 1. It is best practice to make sustainable small changes to the enterprise.

Figure 1: Steps for Progress of a Startup
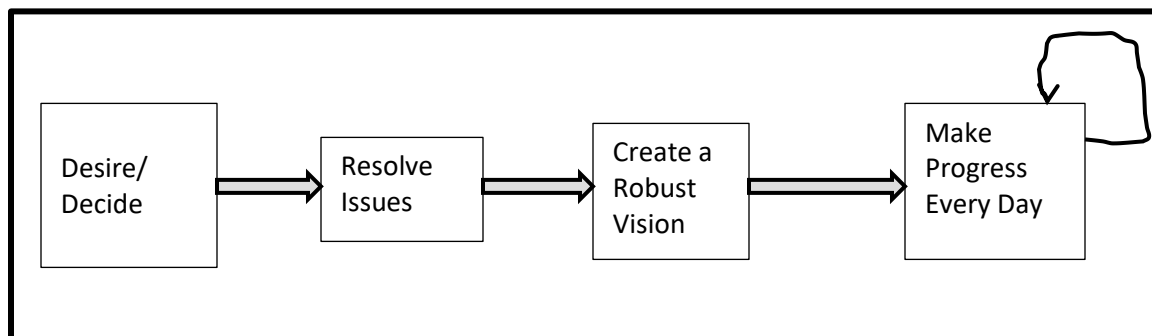
Identifying Products and Markets: i) Individual skills of entrepreneur or the skills of entrepreneurial team becomes the foundation for products and services the startup is going to make. ii) The passion of the entrepreneurial team identifies the markets and industries in which the proposed startup is going to operate or market the developed products into. Both the identified products and services, and the markets and industries, together gives the "Business Model" for the startup. When a product is built and sold, the main question comes to customer's mind while making a purchase decision is "Cost Vs. Value". That is, a typical customer thinks, "what is the cost as a customer I am spending", and "what is the value? I am getting for the money spent". Hence, cost vs. value proposition is important when fixing a product price. The current day business models are following subscription approach as a service; instead of a flat rate huge product price.

Product Development: involves seed funding, sometimes crowd funding. The product development process includes build-test-learn, beta product release, product launch, marketing, distribution and sales. Market research is required to do product design. When selling the product, organization should know who is the customer?, such as English speaking, Hindi speaking, students, industrial organizations, retired people, etc.

Services: they usually take one variable at one time. They require sales push and involve services management and accounting. Startup foundation depends on whether there is real demand for product or service in the market. Entrepreneur has to think different pricing models for products and services; for example subscription model, one time payments etc. During

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Covid-19 pandemic, services sector has been effected across the world. However, these services firms, specifically e-commerce players experimented, learned, improved operations and made supply chain effective with safety and security measures. One more thing is during Covid-19, all contracts in business and government became e-contracts.

Market Research: Market research can be carried in two ways. They are:

i) *Primary Research*: uses original first hand data collected from customers/consumers

ii) *Secondary Research*: users already published data in journals, publicly available databases, magazines, industry newspapers, trade publications, and different departments open data.

One should look at the data in a holistic approach. Market survey executives collect data using the questionnaire developed in primary research. The *market research process* involves defining research problem, research objective, literature review, hypothesis definition, questionnaire design, data collection, data preparation, data analysis using statistical techniques and summarizing or drawing insights from research findings.

"Raw Data ➔ Information ➔ Knowledge ➔ Insights"

Language used in questionnaire, type of questions used, number of questions in questionnaire, complexity of questions, mode of administering the questionnaire decides the response rate from users. After data collection, data preparation involves correction, elimination of errors, or delete specific variable. Some of the statistical techniques used in data analysis include mean, mode, median, standard deviation, chi-square test, correlation, regression, t-test, ANOVA (Analysis of Variance), MANOVA (Multivariate Analysis of Variance), etc. The questionnaire reliability and validity can be tested using Cronbach Alpha test. Selecting right statistical tool is very much important for the market research. If the correct tool is used, inferences and insights will be accurate. Statistical techniques test the hypotheses. The statistical tool going to be used should be in sync with the statistical technique planned to use. The choice of statistical techniques depends

on the types of research variables, types of analysis, nature of variables, distribution of data and number of data sets in the sample.

Startup Development: it starts with people joining together. It involves:

i) *Making Things People Want:* this process involves developing the products and services people in the society need. This comes with the market research and secondary research.

ii) *Making People Want the Things:* this process is nothing but the digital marketing process for the startup.

Startup should have a unique business proposition. It should build sustainable business model. Entrepreneur should build the sustainable, repeatable, and scalable business.

Sectors: Current day graduates are coming up with startup ideas in sectors such as logistics, food products, agriculture, fisheries, retail, FMCG, energy, travel and tourism, food technology, packaged goods, cold storage, solar energy, irrigation, textile, garment, accounting services; and technology sectors such as big data, cloud computing, sensors, internet of things, artificial intelligence, block chain, crypto currencies, 3-D printing, financial technologies, mobile banking, payments and lending technologies, etc.

Funding: some investors such as angel investors, venture capitalists, private equity firms invest in specific sectors according to their organizational/investment fund portfolio. Entrepreneur when targeting specific venture capitalists (VC) should do prior research about the VC firm, their portfolio, interests, type of startups they fund, amount of funding they provide, and the tenure they remain invested in the company, etc. Some of the VC firms provide rapid grants for the startups. For example, during 2020, there is much demand for sanitation products startups, e-tailers, essential goods suppliers, and PPE kits industries. During pandemic, some entrepreneurs even succeeded in converting risk into opportunity with improved process.

Technology Transfer: involves transfer of technologies from advanced countries to the less advanced countries using licensing of patents. Technology transfer acts as a bridge between

innovation and business. Sometimes, it may involve several countries. As on June 2020, for example, institutions such as SERUM Institute of India and ICMR (Indian Council of Medical Research) in India are working towards the vaccine for Covid-19. Universities bridge product development through providing research inputs. Some technologies which were started like technology push in to market, after sometime they may become market pull technologies. For example, initially mobile technologies were pushed into the market; later on market pulled the mobile technologies and drove the technology development. Technologies can be categorized into 3 different categories. They are

i) *Innovative Technologies*: are the new products, processes, ideas which are to be commercialized; require commercialization followed by product sales.

ii) *Emerging Technologies*: are the new technologies and the technology development in progress in an incremental way.

iii) *Established Technologies:* are proven technologies commercially being used by consumers and industries.

Technology transfer should consider what the country requires. The factors such as capital required, business environment (both local and global), legislature, government policies, and how government boosts the technology impact the technology transfer. Drug discovery includes research and development; and production involves manufacturing capabilities. Technology transfer can be done at two stages: 1) through R&D to production (or) 2) post marketing feedback; For any country's economic development, continuously acquiring technologies is important. One more aspect is the affordability to technology. Some of the generic medicines are exported from India to US, UK and developed nations by pharmaceutical companies such as Torrent and Cipla. Companies like Dr. Reddy laboratories and Ranbaxy are developing Indian formulations; Johnson and Johnson and Eli Lilly are developing global pharma formulations. Like this Indian pharma players are diversified into three categories such as generics manufactures, local formula developers and global formula developers.

Across the world different countries are putting cross licensing system and adding to medicine patent pool. Different countries are working on multi drug combinations as well, creating new economic portfolio in their countries. Training workforce, transfer of physical material, voluntary licensing can help the technology transfer. Collaboration can be at sharing of

knowledge. India has limited R&D capacity in pharmaceuticals; whereas its manufacturing capacity is huge and significant in the world. Technology transfer initially may be bit expensive, but over a period of time, after achieving technology absorption, Jugaad (developing with minimal resources under uncertainty--India's core competency), and cost efficiency, technology transfer helps the economic development. Industries such as hardware, chip making and electronic devices moved from technology transfer to development of innovative indigenous products in some countries.

Factors Impacting Technology Transfer: the factors impacting technology transfer from one country to another country includes: financial factors, resource factors, competition, regulations from different governments, economic aspects, and royalties for technology developers and intellectual property developers. For example, in case of pharmaceuticals, commercialization and product sales are mostly dependent on the interfaces with IPR (Intellectual Property Rights). Access to medicine across the world is a major issue. TRIPS (Trade Related Aspects of Intellectual Property Rights) agreement somehow protects the public health, promotes technology innovations, and enables transfer of knowledge between different parties. IPR realizes the money for technology developers from the market. For example, in case of essential and emergency drugs, India has opted for compulsory licensing. Based on the need, compulsory licensing principles are applied in India for essential/emergency drugs during pandemics. Effective absorption of technology and technology diffusion are important particularly for less developed countries. Technology absorption proved to be a big issue during technology transfer process.

For example, Taiwan and South Korea started with reverse engineering and with technology absorption, today they became pioneers in chip making. Another example is effective technology absorption from Bangladesh enabled Kenya to become a leading player in textile industry. Here technology absorption played a major role. Similarly, In IT Industry, India started with manpower supply, slowly it moved up the value chain towards business application development, enterprise integration, systems software and product development; which became possible with the technology absorption by the skilled workforce. With collaboration and technology, India could become largest generics medicine producer in the world. The challenge,

access to medicine, is because of the related IPR issues. For any country, just knowing the technology blue print or writing specifications for patents is not sufficient; the most important thing is the technology absorption for economic development. Some countries instead of manufacturing their own pharmaceutical ingredients, they import because of the cost advantages. Similarly, contract manufacturing develops its own market.

MSMEs (Micro, Small and Medium Enterprises): pandemic like Corona gave lot of opportunities particularly in MSME sector in manufacturing masks, PPE (Personal Protective Equipment) kits and testing equipment. Creativity and self-reliance played major role during pandemic in India. Telemedicine Society of India has significant role during pandemic. Since March 2020, telemedicine guidelines became a reality in India; proved that there are wider applications of technology. The best practices followed during pandemic in India include safety of health records, privacy and solution development. During equipment development, there is cost-benefit advantage for the economy.

Green Technologies: for the threat coming to climate with traditional equipment such as AC, fridge, and TV, green technologies can help. Green technologies can help in handling the climate change challenge in 21st century. Top-20 green technology startups are from US and Europe. As on 2020, there are few green technology startups in India. Product innovation is required to include green technologies. In future, there is possibility to emerge green services related to green technologies because the services sector revolves around the products. For example, WIPO (World Intellectual Property Organization) has started a new platform/services related to intellectual property matters and assets in green/climate change related areas. Another example is, Japan, a pioneer in patent technologies, has Green Technology Practice Program (GTPP).

Industries which have maximum potential for climate change include textile technologies. The global nearly $1 trillion dollar textile industry consumes lot of natural resources such as water to make a piece of jeans trouser. These kinds of industries to follow the green approaches have to recycle the water and pollute less. Compulsory licensing and affordability of patent can make solar energy and medicines available to the developing countries. In case of life saving drugs, India can go for compulsory licensing on need basis. Post-Covid is the time to promote solar

energy, green technologies and patent commercialization. Some of the private equity firms are investing in green technologies. For example, green technologies have wider application in agriculture and construction industries in India. Also, India's automobile industry migration from BS-III to BS-VI involved green philosophy reducing carbon emissions and technology transfer. In energy sector, India took technologies from South Asian countries.

Human in Entrepreneur: Left brain of the entrepreneur acts analytical, data crunching, and Mathematics oriented. Right brain of the entrepreneur exhibits soft characteristics such as creativity, people skills, emotional intelligence, etc. For entrepreneur, during the course of venturing process, it is best practice to have a mentor. He or she should make a habit of winning everyday bit by bit. Entrepreneur should be aware of different ways/types a startup can be registered formally. More preparedness can result into confidence in entrepreneur, in turn giving less feeling/stress of risk for the venture startup.

Industry and Labour Relations: with the industry 4.0, the dynamics of labour relationships are changing rapidly across the world. Work from home, decentralized jobs, light/agile office infrastructure, work round the clock, optimize resource utilization have gone up in the value chain across the industries. Artificial intelligence and Green Human Resources practices have entered into labour relationships. The future workforce should be the emotionally competent workforce.

21ˢᵗ Century Employee: Organizational skills, practice, business etiquette, and personal appearance play major role in employee selection. Communicating clearly, keeping the facts on the table, learning, and listening carefully can save lot of time and reduce lot of rework for the enterprises. Organizations are looking for employees with positive attitude, technical skills, soft skills, original thinking, logical thinking, analytical thinking, influential capacity, who love the job, and who won't get tired kind of skillset in their employees. Employees who takes initiative, have balanced approach, can work in teams, can communicate well, and who can understand the team dynamics have an edge over other employees in an organization. A team can deliver more than the sum of individuals' performance put together. Hence, working in teams is an essential skill particularly in product development in 21ˢᵗ century. Clarity and originality of thought is also

important for current day employees. During pandemic, many governments and business organizations used war rooms (collocate all cross-functional staff) for handling day to day business operations. To work in war rooms, employees are to be attentive all the time, participate in team work, support the supply chain, keep updated themselves about the situation round the clock. The advantage with war rooms is employees get opportunity to work closely with top management or leaders of the organization, quick and spot decision making, evolving new processes, and sometimes it may even lead to reengineering the earlier established business processes. This experience helps the employee in vertical growth in an organization and the industry. It also gives cross functional exposure and employee can look at the macro/bigger picture.

Incubation Center: provides guidance, initial physical office facilities, handholds the graduating students/budding entrepreneurs, helps in conceptualization, ideation and validates the idea, provides mentoring in technology and business, strategizes businesses, and help the budding entrepreneur in building his business network. Department of Science and Technology has incubation program. It provides access to knowledge, access to funding and access to facilities. Access to talent and access to markets are provided by incubation centers across the world. Usually a startup undergoes 2 to 3 years incubation period.

There are around 280 incubation centers in India. Government of India supports majority of these incubation centers. Startup India and Atal Innovation Mission are some of the government programs going on in India. Institutions in India such as AICTE (All India Council for Technical Education) and NAAC (National Accreditation Council) provide guidance and support in incubation centers for technical education institutions. These organizations gave guidelines to spend 1% of the educational institution's budget on startups. The success of incubation center depends on factors such as faculty mentorship, conducting workshops for learners, library with entrepreneurship books and documents, providing guidelines and supporting with needed templates and tools. "Incubation Ecosystem" should involve entrepreneurial graduates, governing agencies, institutions, funding bodies and venture capitalists. *Startup knowledgebase* maintained by the incubation centers should include documents and guidelines on:

❖ Idea Generation

- ❖ Checking Feasibility of Idea
- ❖ Demand Forecasting Tools
- ❖ Business Plan Templates
- ❖ Funding Startup
- ❖ Startup Registration aspects
- ❖ Intellectual property filing aspects
- ❖ Going for IPO (Initial Public Offerings)
- ❖ Venture Capitalist and Angel Investors
- ❖ List of Potential Investors
- ❖ Database on budding startups
- ❖ Templates, Tools
- ❖ Techno-Commercial Reports
- ❖ Financial Projection Tools
- ❖ Global investment funds and
- ❖ Technology resources
- ❖ Any useful reference books on startups/entrepreneurial stories

Success Factors of Startups: The success of startup depends mostly on how to make startup commercial, how to get angel investors, how to sell product, and how to get funding. The success factors of the organizations during pandemic included risk taking, quick learning, reengineer processes, quick decisions, employee initiative, social responsibility, Jugaad, modified supply chains, safety measures, and concern for others.

Conclusion:

Despite the challenges ahead post-pandemic, to keep the economic ecosystem alive, organizations across the world are taking measures sticking to their missions. Temporarily, organizations may have to be flexible a bit in meeting their goals; however this pandemic experience, makes organizations robust, tough and can survive with minimal resources despite challenges serving the customers. Customers also across the world changed their perception the way they look at business organizations. Entrepreneurs got significant figure head roles during pandemic helping the community. Keeping the focus sectors in mind, India can turn around with

learning, new ways of doing things, Jugaad, Quality during tough times, Customer delight, and economic continuity ensuring long term benefits to the country. Pandemic is only temporary.

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