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## Government Funding for Technology Startups

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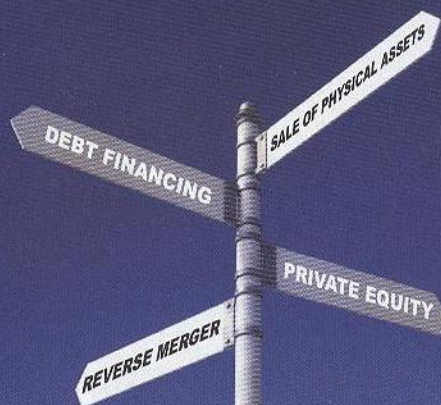


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## Eight Alternatives to a Public Issue

# Government Funding for Technology Startups

Knock on the government's door - you will be surprised by what you find

/Magesh Nandagopal, Vibhor Jindal, V. Premnath

A technology entrepreneur in India is faced with several challenges (and opportunities) while he sets out to create a technology startup. Apart from identifying the right idea and the right markets and being able to recruit the right team, the most crucial challenge an entrepreneur faces is raising money for the new venture. There are widely known sources of funding for technology startups that one can think of, such as venture capitalists, angels, banks, and friends and family. But, an often-overlooked source of funding, particularly in the early stages of a startup, when private investors hesitate to invest due to the high risk of failure associated at that stage, is government funding. Through an array of programs and initiatives, the government offers funding for technology startups, from early-stage development to full-scale commercialization, which entrepreneurs could take advantage of.

## Issues with Technology Start-ups

Getting a startup off the ground is strewn with challenges and difficulties. It is more so in the case of a technology startups as there are specific set of challenges associated with them that need to be overcome. There is always a risk of the technology idea on which the start-up is based (technology risk) will fail or not deliver to the desired level. Also, technology startups will need more resources and infrastructure even at the early stage of development. For example, a software solutions company can start product testing or product development with very little investment and infrastructural support, whereas a material



science technology startup will need laboratory facilities to even test their idea and for product development, and these facilities are lot more capital intensive and need a much greater upfront investment.

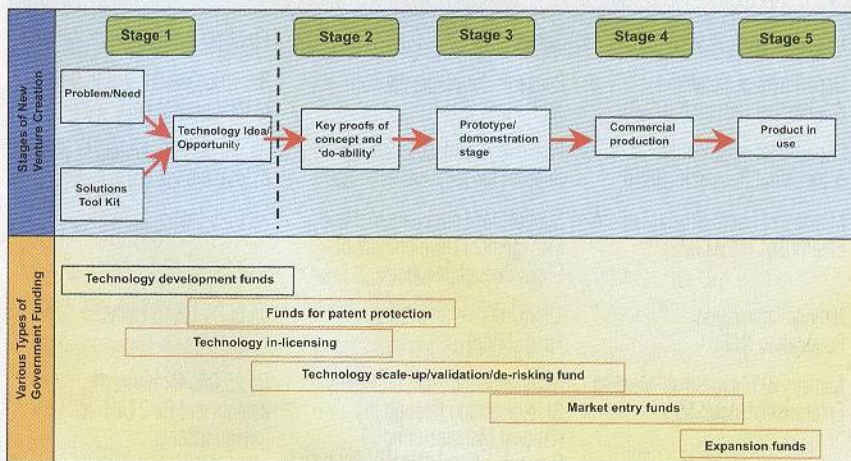
Since idea testing and product development is such an involved process in the case of technology startups, it also extends the time-frame in which the first product/products can reach the market. Which means, an investor, who invests at an early stage of a technology venture, has to wait for a much longer period to see the returns materialize. From a private investor's point of view, all these factors add up to a significant and in many cases an unacceptable level of risk. And hence, funding is that much hard to come by for an early-stage technology startup. So, traditionally, entrepreneurs have turned to their own funds, or to the support of friends and family or to sheer ingenuity and resourcefulness to take their venture ahead.

But, there are government funding sources that have been set-up to specifically support and fund technology-based startups that could be exploited. These funds could be used right from idea validation stage to the full-scale commercialization stage. There are various needs at each stage of technology commercialization and new-venture development that need to be understood before one can fully understand and exploit the funding landscape and funding opportunities offered by the government. The following section gives a brief outline of the various stages involved in starting and growing a technology startup.

### Stages of Technology Commercialization/New Venture Creation

Figure 1 illustrates the five stages of technology commercialization and new venture creation. The first stage is where the entrepreneur recognizes an opportunity that could be exploited by identifying a problem

Figure 1: Technology Commercialization/New Venture Creation Flowchart



and a corresponding solution for that problem. The next step is the idea validation stage, where the do-ability or proof of concept of the technology is studied by experiments and tests. The third stage is the prototyping and demonstrating the technology at a lab scale. The next step is where the process is scaled up to commercial scale, and all the hurdles of setting up a plant etc. is overcome. The fifth and the last stage in the new-venture creation process is commencing commercial production and getting the product to the customer.

There are various funding sources in the government that serve to fund the various stages of new venture development. Based on their function and utility, these funding sources

have been broadly categorized into six categories:

- Technology Development Funds:** Technology development funds are aimed at supporting work on early stage technology idea development, validation, demonstration of proof of concept. These funds come in the form of grants or soft loans, and the funding could range from Rs. 75,000 to Rs. 10 Crore. This stage of venture creation comes with high risk, and typically private players (VCs, Angels) and banks don't fund startups at this stage. The wide availability of government funding will go a long way in promoting innovation and high-risk (and high-payoff) ventures. There are several seed funds connected to business incubators that offer fund-

### Technology Development Funds

Organization	Scheme	Funding Amount
Department of Scientific & Industrial Research (DSIR)	Phase I: Micro Technopreneurship Support (TS)	Rs. 75,000 subject to 90% of approved project cost
Department of Science and Technology (DST)	Instrumentation Development Programme	Up to Rs 35 Lakh sanctioned in recent projects
Department of Bio-Technology (DBT)	Small Business Innovation Business Research Initiative (SBIRI) Phase 1	Upto Rs 1 Crore, upto Rs 50 Lakh as grant and rest as soft loan
Department of Bio-Technology (DBT)	Small Business Innovation Business Research Initiative (SBIRI) Phase 2	Soft Loan upto Rs 10 Crores
National Research Development Corporation (NRDC)	Support to Inventors	Rs 2 lakh

### Funds for Patent Protection/In-licensing

Organization	Scheme	Funding Amount
Department of Scientific & Industrial Research (DSIR)	Phase II: Supplementary TePP Fund (STF)	Rs. 7,50,000 subject to 90% of total project cost
Department of Scientific & Industrial Research (DSIR)	Phase II: Seamless Scale-up Support for TePP projects (S3T)	Rs. 45,00,000 subject to 50% of total project cost
Ministry of Micro Small Medium Enterprises (MoMSME)	Support for Entrepreneurial and Management Development of SMEs through Incubator	Rs 6.25 Lakhs
National Innovation Foundation (NIF)	Micro Venture Innovation Fund (MVIF)	up to Rs 10-15 Lakhs
Ministry of Micro Small Medium Enterprises (MoMSME)	Assistance for Grant on Patent/GI Registration through the National Manufacturing Competitiveness Council (NMCC)	Rs 25,000 for domestic patents and Rs 2 Lakh for foreign patents
Ministry of Communication and Information technology (MIT)	Support International Patent Protection in Electronics and IT (SIP-EIT)	50% or upto Rs 15 Lakh for filling International patent
Council of Scientific & Industrial Research (CSIR)	New Millennium Indian Technology Leadership Initiative (NMITLI)	Grants for Public Institutions and Soft Loan for Private Sector Companies. Few Crore Rs.

ing at this stage, and could offer an alternate source for entrepreneurs. Some examples of such incubator-related seed funds are SINE (IIT-B), Center for Innovation and Incubation and Entrepreneurship (IIM-A) and SIDBI Innovation and Incubation Center (IIT-K).

• **Funds for patent protection and Technology In-licensing:** Protecting technology and knowhow from competitors is crucial, particularly if you want to shield yourself from your competitors, and exclude them from practicing your art. Patenting is an expensive process, in India, and more so, if international patents are to be obtained. Sometimes, filing for patents is prohibitively expensive for an entrepreneur (on average, US patent costs over \$5,000 to obtain, and additional expenditure to maintain it). Without patents, the start-up venture risks to lose its competitive edge. The funds under this category help entrepreneurs to file for patent protection. Also, in some cases, where additional licenses have to be obtained to run a business, and it is necessary to procure IP from other sources (in-licens-

ing), it is possible using these funds (listed in the accompanying table).

• **Technology scale-up/validation/de-risking funds:** There are various risks that are associated with any

early-stage technology venture such as technology risk, which is the risk that the technology might fail or might not deliver the desired product with required specifications, market acceptability risk, which is the risk that the products won't gain acceptability in the market. So, to gain wider acceptance and get funding from other sources like the VCs or angels, it is necessary to de-risk or prove that your technology works and the product is accepted in the market. Various organizations such as DSIR, NRDC, SIDBI provide funding to validate the technology and de-risk the new venture. There are specialized funds that support venture that emphasize new and renewable energy (see table).

• **Market entry funds:** These funds support the technology entrepreneur in performing a range of market entry activities, technology upgradation, infrastructure development etc. This is the stage when the new venture needs to boost its payroll by hiring marketing professionals and a host of other persons to expand the scale

### Technology Scale-up/Validation Funds

Organization	Scheme	Funding Amount
Department of Scientific & Industrial Research (DSIR)	Phase I: TePP Project Fund (TPF)	Rs. 15,00,000 subject to 90% of total project cost
Department of Scientific & Industrial Research (DSIR)	International Technology Transfer Programme (ITTP)	Up to Rs 1 crore sanctioned in recent projects
Small Industries Development Bank of India (SIDBI)	SME Growth Fund	Rs 2 crore to Rs 25 crore
National Research Development Corporation (NRDC)	Angel Fund	Rs 10 Lakh to Rs 30 Lakh
Department of Information Technology (DIT)	Multiplier Grants Scheme	upto Rs 2 crore or upto Rs 4 crore depending on the industry, R&D lab partnership
National Innovation Foundation (NIF)	Micro Venture Innovation Fund (MVIF)	up to Rs 10-15 Lakhs
Ministry of New and Renewable Energy	Energy Recovery from Urban Wastes	Rs 1.5 crore / MW for setting up power plants/ Other schemes available
Council of Scientific & Industrial Research (CSIR)	New Millennium Indian Technology Leadership Initiative (NMITLI)	Grants for Public Institutions and Soft Loan for Private Sector Companies. Few Crore Rs.

of operations. Typically, at this stage, it shouldn't be difficult to get the attention of VCs and Angels and other investors, as the venture by this stage has significantly de-risked. There are excellent networks of Angel investors in the country (see table) and VCs who could be tapped to provide funding by taking equity in the company. Grassroots innovators should definitely note the role played by National Innovation Foundation (NIF) in funding and promoting ventures in this area.

• **Expansion funds:** At this stage, major fund infusion is needed for sustaining a new venture. Presumably, at this stage, the technology has been successfully demonstrated and there is a growing need for the product in the market. To quickly achieve economies of scale and serve the growing markets, quick and massive infusions of funds are necessary. The funding sources listed below are the ones to look to at this stage. As can be noted from the table below, these sources offer large amounts to tech-

### Expansion Funds


Organization	Scheme	Funding Amount
Small Industries Development Bank of India (SIDBI)	SME Growth Fund	Rs 2 crore to Rs 25 crore
Karnataka Information Technology Venture Capital Fund (KITVEN)	KITVEN Fund -2	Rs 1 crore to Rs 2.5 Crore
Kerala Venture Capital Fund	KVCF	Rs 25 Lakh to Rs 1.75 Crore
Ministry of Micro Small Medium Enterprises (MoMSME)	Credit Guarantee Fund Scheme for Micro and Small Enterprises	Collateral Free Credit upto Rs 50 Lakh
Ministry of Micro Small Medium Enterprises (MoMSME)	Credit Linked Capital Subsidy Scheme (CLCSS)	Loans upto Rs 1 crore, upfront capital subsidy upto 15% for technology upgradation
Venture Capitalists	1) Indian Venture Capital Association (IVCA) 2) SEBI List of VCs in India	Rs 5 crore and above
Small Industries Development Bank of India (SIDBI)	Direct Finance	Rs 10 Lakh and above

nology start-ups. The sources range from state government ventures (KITVEN, KVCF) to VCs to central government ministries.

### Conclusion

Technology entrepreneurs could

enormously benefit from utilizing the funding opportunities offered by the government to run their new ventures. Government funding sources are particularly useful in the early-stages of a startup, as private investors and VCs and angles will be wary of investing in a venture with high level of built-in risk. It might be difficult to run a new venture based on government grants and loans. But, any entrepreneur who understands the government funding landscape can use the funding sources to augment his funds and stands a much greater chance of success in running his technology venture.

Note: Due to space restrictions, only a partial list of the government funding sources is given in this article. A more elaborate list with helpful details and tips for entrepreneurs can be found at <http://www.venturecenter.co.in/funding/funding.php> 

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### Market Entry Funds

Organization	Scheme	Funding Amount
Ministry of Micro Small Medium Enterprises (MoMSME)	Marketing Assistance Scheme	Up to Rs 5 Lakh support for attending domestic and International exhibitions etc
Department of Bio-Technology (DBT)	Small Business Innovation Business Research Initiative (SBIRI) Phase 1/Phase 2	Upto Rs 1 Crore, upto Rs 50 Lakh as grant and rest as soft loan/ Soft Loan upto Rs 10 Crores
National Research Development Corporation (NRDC)	Angel Fund	Rs 10 Lakh to Rs 30 Lakh
Department of Information Technology (DIT)	R&D Projects Funding	Not mentioned, Industry will get upto 50% of project cost
National Innovation Foundation (NIF)	Micro Venture Innovation Fund (MVIF)	up to Rs 10-15 Lakhs
Karnataka Information Technology Venture Capital Fund (KITVEN)	KITVEN Fund -2	Rs 1 crore to Rs 2.5 Crore
Kerala Venture Capital Fund	KVCF	Rs 25 Lakh to Rs 1.75 Crore
Angel Networks	1) Indian Angel Network 2) Mumbai Angels	Rs 50 Lakh to Rs 5 Crore
Small Industries Development Bank of India (SIDBI)	Direct Finance	Rs 10 Lakh and above