

NAVIGATING THE DIGITAL ERA: GOVERNMENT DIGITALIZATION INITIATIVES AS CATALYSTS FOR TECH STARTUP ENTREPRENEURSHIP IN INDIA

Ms. Garima Dohar*
Ms. Ankita Rajput**
Dr. Gautam Prasad***

ABSTRACT

Purpose of the Study: The focus of this research is to examine the connection between the development of tech entrepreneurship and government digitalization initiatives in India. The study aims to offer insights into how Indian government interventions impact the entrepreneurial landscape in the digital era by comprehending the processes at work. **Research Objectives:** To evaluate the impact of government initiatives on the expansion of technology entrepreneurs in India major objectives of this research.

Research Design: The research is exploratory and descriptive. The study is based on secondary data, which is qualitative in nature. Secondary data is used in this research. These are collected from various sources that are in the public domain like websites of the RBI, World Bank, and Ministry of Electronics & Information Technology (MeitY).

Findings: The research reveals that Well-crafted government digitization policies have a major impact on the development of tech entrepreneurship. Digital India, smart city initiatives, and financial inclusion programs are examples of initiatives that are critical to innovation, infrastructure provision, and the development of favourable conditions for technology-driven enterprises.

Implications: To ensure that offers guidance to scholars, entrepreneurs, and policymakers, this study explores the many aspects of this relationship and looks at its implications in the fields of economics, society, and technology.

Limitation: The study mainly focuses on the Indian context, because policy implementation and entrepreneurial ecosystems vary depending on the environment, and generalizability to other locations needs to be carefully considered.

Keywords: Government Policies, Technology Entrepreneurship, Digitalization, Entrepreneurship.

Introduction

The merging of technology and entrepreneurship has become a powerful force behind innovation, economic growth, and societal change in the fast-paced world of the twenty-first century. Governments all around the world have enacted several digitalization policies to promote an environment that is favorable to technological entrepreneurship, realizing the critical role that digital technologies will

* UGC-NET JRF, Research Scholar, Department of Commerce, School of Commerce & Management, Dr. Harisingh Gour Vishwavidyalaya Sagar (A Central University), Madhya Pradesh, India.

** Gold Medallist, UGC-NET SRF, Research Scholar, Department of Commerce, School of Commerce & Management, Dr. Harisingh Gour Vishwavidyalaya Sagar (A Central University), Madhya Pradesh, India.

*** Assistant Professor, Department of Commerce, School of Commerce & Management, Dr. Harisingh Gour Vishwavidyalaya Sagar (A Central University), Madhya Pradesh, India.

play in defining the future. For an understanding of the lengthy procedures that drive this essential interaction, this article explores the connection between government digitalization policies and the evolution of the technology entrepreneurial ecosystem. This study's main goal is to examine the relations between the expansion and sustainability of technology entrepreneurship and government digitalization programs and give information about how government interventions impact the entrepreneurial landscape in the digital era by comprehending the processes at work.

The study investigates the relationship between India's technological entrepreneurial scene and government digitalization initiatives. In reaction to the increasing reliance on digital technologies, governments worldwide have initiated several digitalization initiatives aimed at fostering innovation and economic expansion. The purpose of this research is to thoroughly examine how these regulations affect the entrepreneurial environment within the technology sector. The study tackles the more general issue of how countries might strategically use digitalization policies to boost their competitiveness in the global technological landscape at the macroeconomic level. Governments may optimize the benefits to their economies by finetuning their policies by understanding the mechanisms by which these policies affect the viability and augmentation of digital businesses.

The growth in popularity of technology startups has drawn a lot of attention lately since these companies are important engines of innovation, economic growth, and job creation. These companies have the ability to upend markets, bring in cutting-edge technologies, and change the face of business thanks to their innovative ideas and entrepreneurial spirit. Governments all throughout the world have put in place a variety of laws and programs targeted at assisting in the development and prosperity of startups, realizing the value of promoting innovation and entrepreneurship. Entrepreneurs are essential to the rise of society and the economy. The exponential expansion of entrepreneurial endeavors is commonly acknowledged as a noteworthy driver of innovation, productivity, expansion, and job creation. Ensuring to foster a startup culture and establish a welcoming atmosphere for creativity and enterprise, the Indian government initiated the Start-up India initiative in January 2016. This project provides a road plan for creating a supportive environment that encourages the expansion of startups in India. It concentrates on important topics such as finance support and incentives, industry-academia collaboration, and incubation. To encourage an innovative and entrepreneurial culture throughout the nation, the Indian government has launched a number of projects and put in place legislative provisions. One of India's biggest challenges is creating jobs. India, however, has enormous potential to innovate, foster entrepreneurship, and generate jobs for the benefit of the country and the world thanks to a notable and distinctive demographic advantage. Recently, the government of India has introduced numerous new initiatives and programs to promote innovation across all sectors. Interacting with the most marginalized groups in society, academia, business, investors, small and large business owners, and non-governmental organizations.

By learning more about the regulatory environment and seeing possible areas of cooperation with government efforts, entrepreneurs themselves stand to gain. Entrepreneurs may make more informed judgments about resource allocation and expansion strategies by using the study's insights about the relationship between scalability and digital infrastructure. There is a significant study gap even though the significance of government digitalization initiatives in influencing technology entrepreneurship is becoming increasingly apparent. Although some studies have looked at the wider effects of digitalization on economies or particular industries, Comprehensive studies examining the relationship between government programs and the ecosystem of IT entrepreneurs are uncommon. A compilation of existing literature frequently presents high-level analysis while ignoring the subtleties and particular policy elements that are crucial in shaping entrepreneurial activities.

Navigating the complexity of the modern business environment requires an understanding of how government digitalization policies affect technological entrepreneurship. This research is crucial since it can provide investors, entrepreneurs, and legislators with insightful information that can help with strategy creation and decision-making. Understanding the role of government interventions becomes critical in an era where digital technologies are not only tools but also accelerators for innovation and economic success. To better understand and support technological entrepreneurship, this study will

investigate and evaluate the various effects of government digitization initiatives. Governments are crucial in creating an atmosphere that supports the development of tech entrepreneurs in a time when digital transformation is drastically altering economies and society throughout the world.

Review of Literature

The Government policies support entrepreneurship and development in India's ecosystem of technology startups, Khandelwal & Asthana (2023). India is a major player in the global startup scene because of the notable increase in technology startups over the last ten years. This research paper aims to offer insights into the policy measures that can effectively encourage innovation and entrepreneurial activities in India. Policymakers, business owners, investors, and Further parties who are interested can locate the data useful in understanding how the government can support a thriving startup environment and spur economic growth through technological innovation. Meanwhile, Kashmiri & Akhter (2017) In this paper the effect of government initiatives in fostering entrepreneurship and examining how those policies affect overall economic growth will be discussed. The research expands upon prior research on economic development, entrepreneurship, and government policy concerning entrepreneurial activities. because many nations use entrepreneurship as a component of their economic development strategies to attain macroeconomic advantages. Naidu (2016) This study discusses the effect of government on entrepreneurship. One of the sensitive topics and pain points that any economy faces is unemployment. Not only does unemployment exist among the illiterate, but it has also spread to the educated classes. India is a young nation, with a wide amount of its people being under 30, and to fully utilize their potential, we must provide them with the tools and opportunities they need. The most effective tool we have to combat this problem and give our children more power is entrepreneurship.

Youth are naturally energized and empowered; they are open to venturing into uncharted territory and accepting novel challenges and dangers. The government is crucial to the development of entrepreneurship. Ramteke (2022) attempts to look into and analyze different government-framed policies aimed at fostering entrepreneurship. Researchers outlined numerous initiatives and programs designed by the government of India to encourage entrepreneurship in this report. The current study also made numerous recommendations for encouraging entrepreneurship and comparing different programs. Secondary data served as the foundation for this investigation. Shah & Jokhi (2023) focus on government policies for startups and their effect on the implementation of the startup and an assessment of the government's flagship initiatives, such as Skill India, Digital India, and Startup India, they are meant to aid in the development and expansion of the country. Additionally, this study assesses the many obstacles that are verified to be difficult for business companies to establish and run. Abhyankar (2014) explains the status of the innovation ecosystem today, the difficulties it faces, and the steps the Indian government is taking to encourage innovation for the rise of sustainable entrepreneurship. Early signs point to India being ready to take a significant move towards innovation-led growth with the adoption of this new strategy. To evaluate the innovation policy framework's contribution to enterprise development and innovation in the country sector, this article provides a thorough review of it. Over the years, industrial policy resolutions and statements have directed the growth of manufacturing firms, while S&T policy statements have guided India's innovation strategies Dhar & Saha (2014). According to Abhyankar (2014), The present discussion establishes the status of the innovation ecosystem, the obstacles it confronts, and the measures undertaken by the Indian government to foster innovation for the advancement of entrepreneurship and sustainable development. Preliminary signs suggest that the country is about to take a significant shift towards innovation-driven economic growth with the adoption of this tactic. In Lundstrom & Zhou's (2011) discussion paper, the expression "Knowledge is Power," attributed to Sir Francis Bacon, encompasses not only natural sciences and technologies—which seek to comprehend natural phenomena and acquire material wealth—but also social sciences and technologies, which focus on social ideals and the pursuit of peaceful and sustainable social development. Science and technology parks have historically been made possible by innovation and entrepreneurship based on natural sciences and technologies; however, the concept of a "social innovation park" is currently being established by innovation and entrepreneurship based on social sciences and technologies. The unique features of social innovation parks and the methods by which they used strategy to promote social academic entrepreneurship.

Research Objectives

- To study the digitization initiatives of the Indian government that support tech entrepreneurship.
- To assess the role of India's regulatory frameworks in supporting tech entrepreneurship.
- To evaluate the effect of Indian government initiatives on the development of tech entrepreneurship.

Research Methodology

The study is descriptive in nature. Additionally, the secondary data used in this research article are qualitative in character. Secondary data is obtained from a range of publicly available sources, including research agency reports, literature available in research journals, blogs by subject matter experts, and websites of the RBI, World Bank, and Ministry of Electronics & Information Technology (MeitY).

Limitations

While the study provides valuable insights, it acknowledges certain limitations. The rapidly evolving nature of technology and policies necessitates continuous updates, and the research may not capture the most recent developments. Additionally, the study primarily focuses on the Indian context, and generalizability to other regions requires cautious consideration due to contextual variations in policy implementation and entrepreneurial ecosystems. These are limitations to the research in India.

Government Digitalization Initiative in Promoting Entrepreneurship in India

- **Digital India:** The aim of India's Digital India initiative, launched in 2015, is to transform India into a technologically enabled society. It includes many topics, such as digital infrastructure, citizen empowerment through digital means, and government. The strategy involves e-governance, digital infrastructure development, and digital literacy promotion programs.
- **Startup India:** Launched in 2016, the Startup India program seeks to develop an ecosystem that supports businesses and innovation. It consists of numerous programs and incentives, like tax breaks, financial assistance, and streamlined regulations, to help entrepreneurs.
- **Make in India:** The Made in India campaign promotes manufacturing in India, particularly the technology industry, but it's not solely focused on tech entrepreneurship. Making India a center for global manufacturing is the goal.
- **Electronics Development Fund (EDF):** A pool of funds, the Electronics Development pool encourages entrepreneurs and innovation in the electronics and IT industries. It offers financial assistance to encourage entrepreneurship, R&D, and innovation in the electronics sector.
- **BharatNet:** The government's BharatNet program aims to connect Every single one of the nation's gram panchayats to high-speed broadband. To improve internet access and encourage technology-driven entrepreneurship in rural areas, infrastructural improvement is crucial.
- **MUDRA (Micro Units Development and Refinance Agency) Yojana:** MUDRA Yojana offers financial help to micro and small businesses, particularly tech startups, but it is not limited to this type of business. Its objective is to promote entrepreneurship by offering small enterprises finance.
- **Skill India:** The goal of the Skill India initiative is rise in employment through skill development. It consists of courses that teach people digital skills, which are essential for engaging in the technology entrepreneurial scene.
- **National Policy on Software Products (NPSP):** India is to become a global powerhouse for software products. It describes methods for promoting entrepreneurship, innovation, and the growth of intellectual property in the software product industry.
- **Atal Innovation Mission (AIM):** AIM is a national flagship program that encourages entrepreneurship and innovation. To assist entrepreneurs and inventors, it offers initiatives including Atal Tinkering Labs, Atal Incubation Centres, and Atal New India Challenges.

Strategic report from NASSCOM In 2023, there will be 27,000 technology companies worldwide, with 3,200+ (or approximately 12 Percent) based in India as deep tech companies. Deep technological enterprises must grow capital-intensively, but doing so presents several problems, such as finding tax incentives, connecting with investors, connecting with consumers and suppliers, expanding globally with a soft landing, and long-term viability. To boost the nation's technology-led startup-innovation ecosystem and give innovative and developing technologies a boost, MeitY has put in place a variety of preventative, proactive, and grading measures

Table 1: Sector-wise number of Recognized Indian Tech Startups as on 28th March 2023

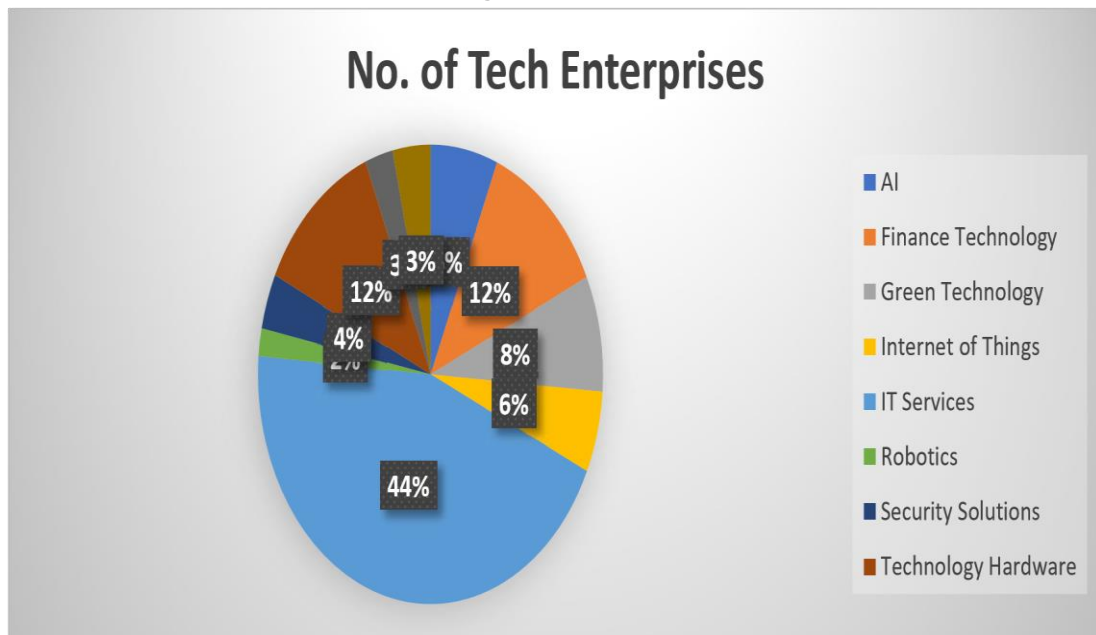
S. No.	Industries	No. of Startups (as on March 2023)
1.	AI	1,580
2.	Finance Technology	2,930
3.	Green Technology	2,046
4.	Internet of Things	1,428
5.	IT Services	11,099
6.	Robotics	491
7.	Security Solutions	972
8.	Technology Hardware	2,934
9.	Social Networks	659
10.	Telecommunication & Networking	880
	Grand Total	25,019

Source: PIB Report on Startups & Innovation Ecosystems are engines of growth for any country

Table 1 demonstrates that IT Services has the highest number of startups which is 44 percent among the tech enterprises and the least number of startups are in the robotic sector which is only 2 percent.

According to the Indian Tech Startup Funding Report 2023 Following its 2021 peak, the Indian startup ecosystem has seen a substantial downturn that began in 2022. The total funding in 2023 was over \$10 billion, a 60% decrease from 2022 and a steep 76% decline from the high in 2021. Notably, the Indian startup ecosystem has seen a drop in investment for the past seven years. Investor participation decreased in 2023 compared to the prior year, which was consistent with the funding trends. This year, about 1,500 startup investors participated, a 37% down from the over 2,400 reported in 2022

Chart 1: Sector-wise Number of Recognized Indian Tech Startups as of 28th March 2023



Source: PIB Report on Startups & Innovation Ecosystems are engines of growth for any country

As per Chart 1, it has been demonstrated that Indian Tech startups are highly followed by IT Services and investing in it. Also, the Internet of Things and Technology Hardware are moving forward to their growth.

- **Government Initiatives in Promoting Technology Entrepreneurship in India**

To assist IT companies, the Ministry of Electronics and Information Technology (MeitY) has launched several programs and initiatives:

- **Next Generation Incubation Scheme (NGIS):** With approval, the NGIS may now serve the software product ecosystem by addressing the main components of the National Policy on Software Products (NPSP) 2019. The scheme is expected to be launched from twelve sites: Agartala, Bhillai, Bhopal, Bhubaneswar, Dehradun, Guwahati, Jaipur, Lucknow, Prayagraj, Mohali/ Chandigarh, Patna, and Vijayawada. Over three years, 300 tech enterprises in tier-2 and tier-3 cities are expected to receive help from the solution-oriented architecture scheme, which has a total budget of Rs 95.03 crore.
- **TIDE 2.0 Scheme:** In 2019, the Technology Incubation and Development of Entrepreneurs (TIDE 2.0) Scheme was launched to foster tech entrepreneurship by providing financial and technical assistance to incubators that assist ICT startups utilizing cutting-edge technologies like blockchain, robotics, IoT, and artificial intelligence. With a three-tiered framework, 51 incubators are implementing the Scheme, which has as its main goal promoting incubation activities in elite R&D organizations and higher education institutions. Approximately 2,000 tech businesses are anticipated to receive incubation support under the scheme, which will cost Rs 264 crore in total over the course of five years.
- **SAMRIDH Scheme:** In August 2021, the government initiated the "Startup Accelerator Programme of MeitY for Product Innovation, Development, and Growth (SAMRIDH)" to assist current and forthcoming accelerators in their efforts to identify and expedite prospective software-based product businesses towards successful growth. The program will cost ₹ 99 cr. in total over three years. The SAMRIDH Scheme will provide support to 300 businesses in all.
- **GENESIS (Gen-Next Support for Innovative Startups):** Digital India-GENESIS is an umbrella program launched by the Ministry of Electronics and Information Technology (MeitY) to identify, nurture, developing, and creating successful companies in Tier-II and Tier-III cities. The program emphasizes the importance of entrepreneurs, the government, and corporate entities working together to drive digitization based on the values of affordability, accessibility, and inclusion. This will lead to a rise in employment and economic output.
- **Domain-specific Centres of Excellence:** To foster self-reliance and enhance capabilities to use novel and developing technology domains, MeitY has conceptualized and established 26 Centres of Excellence (CoEs) across diverse sectors of national importance. Through the democratization of invention and the realization of prototypes, these domain-specific CoEs serve as catalysts and assist in transforming India into a hub for innovation.
- **Support for International Patent Protection in E&IT (SIP-EIT) Scheme:** The government launched the "Support for International Patent Protection in E&IT (SIP-EIT)" program, which promotes Indian Micro and Small Medium Enterprises and startups to file international patents to foster innovation and appreciate the potential and worth of global intellectual property. The scheme reimburses up to Rs 15 lakhs per invention, or if less, half of the total expenses related to filing and handling the patent application until it is granted.

Conclusion, Findings and Suggestions

This study provides the discourse on the symbiotic relationship between government digitalization policies and tech entrepreneurship. By doing so, it aspires to contribute a comprehensive understanding of how these policies shape the entrepreneurial landscape, offering actionable insights for policymakers, entrepreneurs, and investors alike. Through this exploration, the study endeavours to contribute to the ongoing dialogue surrounding the symbiotic relationship between governments and the technology-driven entrepreneurial ventures that are shaping the future. Initiatives such as Digital India,

smart city projects, and financial inclusion programs play pivotal roles in fostering innovation, providing essential infrastructure, and creating conducive environments for technology-driven startups. The findings underscore the significance of policy coherence, agility, and responsiveness to the evolving wants of the tech entrepreneurial ecosystem. Preliminary findings suggest a positive correlation between well-crafted government digitalization policies and the rise in technology entrepreneurship.

References

1. Abhyankar, R. (2014). The Government of India's Role in Promoting Innovation Through Policy Initiative for Entrepreneurship Development. *Technology Innovation Management Review*, pp11–17. www.timreview.ca
2. Adler, Patrick & Florida, Richard & King, Karen & Mellander, Charlotta. (2019). The city and high-tech startups: *The spatial organization of Schumpeterian entrepreneurship*. 87. pp121-130. 10.1016/j.cities.2018.12.013.
3. Chheda, Kajal. (2023). Entrepreneurship and Startups Culture in India. *Entrepreneurship and Startups Culture in India*, Bharti Publications pp24-33.
4. Dhar, B., & Saha, S. (2014). *An Assessment of India's Innovation Policies*, Research and Information System for Developing Countries, discussion paper (189). www.ris.org.in
5. Kashmiri, H. A., & Akhter, R. (2017). Role of Government Policy in Entrepreneurship Development. *The Communications*, 25(1).
6. Khandelwal, P., & Asthana, P. (2023). Analyzing the Role of Government Policies in Fostering Innovation and Entrepreneurship in India's Technology Startups. *Iconic Research and Engineering Journals*, 6(12), pp1129–1135.
7. Lundström, Anders & Zhou, Chunyan. (2011). Promoting innovation based on social sciences and technologies: The prospect of a social innovation park. *Innovation – The European Journal of Social Science Research*, 24. pp133-149. 10.1080/13511610.2011.583864.
8. Maradi, Mallikarjun. (2023). Growth of Indian Startup: A Critical Analysis. *Journal of Management and Entrepreneurship*, pp180-186.
9. Murthy, D.Sudarsana & Singh, Shikta. (2022). Digital Entrepreneurship: An aisle for the success of Business Enterprises. *Neuro Quant ology*. 20.3 pp224-239.
10. Naidu, A. A. (2016). *Examining the Relationship between Entrepreneurial Orientation, Strategic Decision-Making Process, and Organization Performance: A study of Singapore SMEs*. Doctoral thesis, UWA Business School,
11. Ramteke, Anil. M. (2022). Indian Government Policies in Promotion of Entrepreneurship. *International Journal of Innovative Research in Technology*, 9(4), pp28–32.
12. Shah, F., & Jokhi, M. (2023). A Study on the effect of Government Policies on startups. *A Global Journal of Social Sciences*, 6(1), pp52–57.

