

**FUNDING PATTERNS AND ANALYZING THE ROLE OF DOMESTIC
INVESTORS' BEHAVIOR IN INDIAN STARTUPS (EMERGING TECH -
GENAI)**

by

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**FUNDING PATTERNS AND ANALYZING THE ROLE OF DOMESTIC
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DEDICATION

This thesis is dedicated to the remarkable individuals, family, and friends who have been a constant source of support, love, and encouragement throughout this journey. Your unwavering belief in me has been the driving force behind every step I have taken. During moments of doubt and uncertainty, your support has been the light that guided me forward, and in times of celebration, you have shared in my joy as if my achievements were your own. I am deeply grateful for your faith in me, as it has strengthened my resolve and fuelled my motivation.

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ABSTRACT

FUNDING PATTERNS AND ANALYZING THE ROLE OF DOMESTIC INVESTORS'

BEHAVIOR IN INDIAN STARTUPS (EMERGING TECH, AI & GENAI)

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India's startup ecosystem has undergone transformative growth, emerging as a global innovation hub driven by rapid technological advancements, government-led initiatives, and increased investor interest. This study investigates the evolving patterns of domestic investment in Indian startups, with a focused lens on the Emerging Technologies (EMERGING-TECH) - Artificial Intelligence (AI) & Artificial Intelligence Generative (GENAI) sectors. Historically reliant on foreign capital, the Indian startup funding landscape has shifted significantly since 2016, witnessing the rise of domestic investors—including high-net-worth individuals, angel networks, corporate venture arms, and family offices—who now play a strategic role in early and mid-stage funding. Through comprehensive data analysis and time-series forecasting using ARIMA and Prophet models, this research identifies key trends in funding behavior, sectoral preferences, regional disparities, and stage-wise investment decisions. The study reveals that domestic investors are more risk-averse, preferring scalable ventures with shorter return cycles, and disproportionately fund startups in Tier 1 cities, leaving Tier 2 and Tier 3 regions undercapitalized. It also highlights a growing interest in AI-enabled startups, though tempered by knowledge asymmetry and technical skepticism among investors. The findings offer actionable insights for policymakers, startup founders, and ecosystem enablers by mapping capital flow dynamics, identifying investment gaps, and recommending strategic interventions. By

emphasizing the role of domestic capital in fostering self-reliance and innovation, the study contributes to the broader discourse on sustainable entrepreneurship in emerging markets like India.

Keywords: Domestic Investors, Emerging Technology (ET), Artificial Intelligence (AI), Generative AI (Gen AI), Startup Funding, Indian Startup Ecosystem .

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LIST OF ABBREVIATIONS

No.	Abbreviations	Full Form
1	Emerging-Tech	Emerging Technologies
2	AI & GENAI	Artificial Intelligence & Generative Artificial Intelligence
3	HNI	high-net-worth individuals
4	IAN	Indian Angel Network
5	VC	Venture capitalists
6	FFS	Fund of Funds for Startups
7	IPOs	Initial Public Offerings
8	CVCs	Corporate Venture Capitalists
9	RPA	robotic process automation
10	NLP	Natural Language Processing
11	CGFSS	Credit Guarantee Fund Scheme for Startups
12	FVCI	foreign venture capital investor
13	LTCG	long-term capital gains
14	DPIIT	Department for Promotion of Industry and Internal Trade
15	OEM	Original Equipment Manufacturers
16	FOMO	Fear of Missing Out
17	NASSCOM	National Association of Software & Service Companies
18	ARIMA	Auto Regressive Integrated Moving Average
19	AIC	Akaike Information Criterion

20	ACF	Autocorrelation Function
21	PACF	Partial Autocorrelation Function
22	BIC	Bayesian Information Criterion

CHAPTER I: INTRODUCTION

1.1 Background of the Study

India has experienced a remarkable transformation in its entrepreneurial landscape over the past decade, establishing itself as one of the world's leading startup ecosystems (Chandiok et al., 2016). With over 100,000 startups and more than 100 unicorns as of 2024, the country has evolved into a hub of innovation, technological advancement, and economic dynamism. This explosive growth is driven by a combination of factors, including a large and young talent pool, increasing internet penetration, rapid digitalization, proactive government initiatives like Startup India and Digital India, and an evolving appetite for innovation across various sectors (Subrahmanya et al., 2021). The Indian startup ecosystem now spans a wide array of industries, ranging from e-commerce and fintech to healthtech, agritech, and edtech, with technology forming the core of most ventures.

Within this environment, Emerging Technology (Emerging -Tech) and Artificial Intelligence (AI) have emerged as powerful enablers of entrepreneurship and innovation. Emerging-Tech refers to the foundational digital technologies such as cloud computing, mobile technologies, blockchain, IoT, and big data analytics that support digital transformation across industries (Bhatt et al., 2022). AI, on the other hand, represents the frontier of intelligent systems capable of learning, decision-making, and automation. Generative AI (GENAI), a subset of artificial intelligence (AI) that employs deep learning and neural network techniques on massive-scale data to “create” novel content of varied types—text, images, video, audio, code, etc.—has taken the world by storm. These technologies have empowered startups to create scalable solutions that address complex market problems, increase operational efficiency, and offer personalized

customer experiences. AI, in particular, is now embedded across sectors including finance, education, agriculture, media, pharmaceuticals, and climate tech, shaping new business models and disrupting traditional markets.

While technological capabilities have grown, the nature and structure of investment in Indian startups have also evolved, especially in relation to domestic capital sources. Historically, Indian startups heavily depended on foreign venture capital firms, private equity funds, and global investors for funding. However, this reliance began to shift after 2016, spurred by several factors. The growing maturity of the ecosystem encouraged Indian high-net-worth individuals (HNIs), family offices, corporate ventures, and sector-focused domestic venture capital (VC) firms to participate actively in startup funding (Khuntia et al., 2023). Angel investor networks like Indian Angel Network (IAN), LetsVenture, and Mumbai Angels also expanded their presence, democratizing early-stage investments and fostering a local investment culture.

This rise of domestic investors has played a critical role in reshaping the investment landscape. Local investors bring not only capital but also domain expertise, a deeper understanding of the Indian market, regulatory know-how, and the ability to mentor startups in navigating complex business environments. Their proximity to startups allows for more frequent interactions and hands-on support, especially in the formative stages (Devi et al., 2024). Moreover, domestic investors are more attuned to the unique socio-economic and cultural contexts of Indian consumers, enabling them to back ideas that might be overlooked by global investors unfamiliar with local realities.

A significant trend emerging from this shift is the increasing preference for indigenous funding sources over foreign capital. While foreign investment continues to play an important role in

later-stage funding and scaling, Indian startups are now more confident in seeking early-stage and Series A support from domestic VCs and angel investors. This trend reflects a broader ambition of self-reliance in technology and innovation, aligned with national initiatives like Atmanirbhar Bharat. Additionally, geopolitical shifts, concerns over foreign control in strategic sectors, and regulatory scrutiny of overseas capital have further propelled interest in building a robust, self-sustained domestic funding ecosystem.

In this context, understanding the behavioural patterns, sectoral preferences, and regional investment trends of domestic investors becomes critical (Dasgupta et al., 2022). It is essential to investigate how these investors are shaping the future of AI and Emerging-Tech startups in India, what sectors and regions attract their capital, and how their involvement contributes to long-term startup success and sustainable economic development.

1.2 Indian Startups

Indian startups, particularly in the Emerging Technologies (Emerging-Tech) and Artificial Intelligence (AI) sectors, have become central to driving technological innovation, economic growth, and job creation. Over the past decade, domestic investors have played a crucial role in shaping this ecosystem by providing the necessary capital, mentorship, and industry insights. Despite their importance, however, the specific investment patterns, sectoral preferences, and risk appetites of these investors have not been extensively explored (Aßmann, et al., 2024).

Domestic investors bring unique advantages to the table, including a deep understanding of local markets, consumer behaviours, and regulatory frameworks. This enables them to make investment decisions that are more contextually relevant and aligned with the specific needs of the Indian market. Nevertheless, their investment behaviours can vary based on several factors,

including the industry, the stage of business development, and the geographical region of the startup. For instance, certain regions may attract more funding due to their infrastructure, talent pool, or government support, while others may face challenges in securing investment.

This research seeks to analyze how domestic investors allocate funds across different startup sectors, business stages, and regions within India. It will also investigate the role of AI adoption in influencing investment trends. The research will explore whether AI-driven startups attract more funding compared to those in traditional sectors and how the integration of AI impacts investor confidence (Chaudhary, et al., 2021). Understanding these dynamics will provide valuable insights into the domestic investment landscape, offering strategies to strengthen the startup ecosystem, encourage long-term investments, and further the role of AI-driven innovation across key industries. Ultimately, the research aims to enhance the ability of investors to support high-growth potential startups and promote sustainable development in India's technology-driven future.

1.3 Rationale of the Study

India's transformation into a global startup powerhouse has been one of the most notable economic developments of the last decade. This transformation has not only fueled economic growth but has also positioned India as a key player in the digital and technological innovation space. Central to this evolution has been the emergence of startups in the Emerging Technologies (Emerging-Tech) and Artificial Intelligence (AI) sectors, which are driving automation, digital infrastructure, and smart solutions across industries. Despite the prominence of these sectors, the investment behavior of domestic investors—a rapidly growing and highly influential group—remains underexplored in academic and policy-oriented research.

The rationale for this study stems from the critical need to understand the changing nature of startup funding in India, particularly with respect to indigenous capital. Until recently, much of the research on startup funding has concentrated on foreign venture capital, global private equity, and international accelerators. However, since 2016, the funding landscape has shifted with the rise of local angel networks, Indian venture capital firms, family offices, and corporate investors. These domestic players bring localized knowledge, strategic mentorship, and a long-term vision aligned with India's socio-economic context. Understanding how they make investment decisions, their sectoral preferences, and their tolerance for risk is vital for mapping the future of innovation in India.

This study is particularly timely given the increasing policy emphasis on self-reliance and the development of indigenous technological capacity. Government initiatives such as Startup India, Digital India, and Atmanirbhar Bharat aim to reduce dependence on foreign technologies and capital by building a robust internal ecosystem for innovation and entrepreneurship. Domestic investors are expected to play a key role in this transition, especially in supporting AI startups that require early-stage risk capital and domain-specific knowledge. However, there is limited empirical data on how these investors evaluate startups that incorporate cutting-edge technologies like AI, how they perceive risk, and what kinds of startups they prefer to back based on region, sector, and stage of development.

Furthermore, regional disparities in startup investment pose another critical challenge. Tier 1 cities like Bangalore, Mumbai, and Delhi dominate the funding landscape, while startups in Tier 2 and Tier 3 cities often struggle to access sufficient capital despite growing entrepreneurial activity. A deeper understanding of geographical investment patterns will help identify funding

gaps and inform strategies to strengthen the innovation ecosystem across India's diverse urban spectrum.

Another important consideration is the sectoral variation in investment behavior. While some industries like fintech and edtech receive significant attention, others such as agritech, climate tech, and healthcare often face funding shortages due to longer gestation periods and higher perceived risks. This research will explore whether AI integration acts as a catalyst for investment in these underfunded sectors, potentially enabling broader socio-economic development.

In summary, this study aims to fill a critical gap in the literature by analyzing how domestic investors influence startup growth, particularly in Emerging-Tech and AI sectors, across different regions and stages. The findings will be relevant not only for entrepreneurs and investors but also for policymakers and ecosystem enablers who seek to build a more equitable, innovation-driven, and resilient startup economy in India.

1.4 Significance of the Study

India's startup ecosystem stands at a critical juncture where domestic capital, particularly from Indian investors, is poised to redefine the contours of entrepreneurial growth and technological innovation. As India moves toward self-reliance in technology and business, understanding the motivations and patterns of domestic investors becomes essential. This study is significant for multiple stakeholders—including investors, entrepreneurs, policymakers, and scholars—who play a role in shaping the future of innovation and inclusive economic development.

For investors, the research offers actionable insights into aligning their strategies with emerging industry sectors, business stages, and geographical regions. With the Indian startup landscape

expanding rapidly beyond Tier 1 cities, investors must adapt to new patterns of innovation occurring in Tier 2 and Tier 3 areas. Startups in sectors like agritech, healthtech, and cleantech are beginning to show promise, especially when empowered by AI-driven technologies. By understanding which sectors and regions are gaining traction, domestic investors can make more informed, forward-looking decisions. The study can also help investors assess the real versus perceived risks of investing in AI-led or semi-urban ventures, guiding them to diversify their portfolios in a way that aligns both with impact and profitability.

For startups, especially early-stage ventures, the research offers valuable guidance on how to become investment-ready. By identifying the key factors that influence domestic funding decisions—such as sectoral focus, use of AI, or regional location—entrepreneurs can better position themselves to attract funding. This understanding can help startups tailor their business models, product development, and investor pitches in ways that resonate with domestic investors. It also empowers entrepreneurs in underserved regions or sectors to better navigate the investment ecosystem and overcome barriers to entry.

For policymakers, the findings of this study can support more targeted and region-specific policy interventions. One of the key challenges in India's startup economy is the unequal distribution of capital, with most funding concentrated in metropolitan areas([Akhter et al., 2024](#)). By shedding light on where funding gaps exist and how AI adoption influences investor interest, the study provides data that can inform public policy aimed at decentralizing innovation. Programs and incentives can be more effectively designed to encourage investment in underfunded sectors and locations. Moreover, understanding the domestic investment psyche can help the government design frameworks that attract long-term capital while fostering AI innovation that aligns with national priorities in sectors like agriculture, healthcare, and environmental sustainability.

For academia and the research community, this study contributes to the growing field of innovation economics and venture capital behavior in emerging markets. While substantial literature exists on foreign investment patterns in the global North, much less is understood about indigenous capital flows in countries like India. This research bridges that gap by offering a comprehensive analysis of how domestic investors influence startup ecosystems in technologically dynamic environments. It provides a foundation for future empirical studies on risk behavior, capital allocation, and the economic role of AI in regional entrepreneurship.

In essence, this study holds relevance across multiple dimensions—strategic, operational, policy-driven, and theoretical—making it a critical contribution to the evolving discourse on startup financing and innovation in India’s tech-led growth era.

1.5 Research Objectives

This study will address the following key questions:

1. What factors influence domestic investors' funding decisions across Tier 1, Tier 2, and Tier 3 cities?
2. How do funding patterns vary across industries such as finance, education, agriculture, media, pharmaceuticals, and environment?
3. At which funding stages do domestic investors typically participate?
4. How does GEN AI adoption in different industries impact investment trends and startup success?

1.6 Research Focus

The idea for this research stems from curiosity about the dynamics of domestic investments and their significance in sustaining India's startup ecosystem. My observations indicate that, despite

their essential role, domestic investors face unique challenges, such as limited risk appetite, a preference for short-term returns, and inconsistent exposure to innovative technologies. Moreover, significant disparities exist in funding patterns across tier 1 urban hubs, tier 2 semi-urban areas, and tier 3 rural locations, impacting investment opportunities and outcomes.

This research will answer the following key questions:

1. How do domestic investors' preferences and behaviours differ from those of foreign investors in the Emerging-Tech and AI sectors?
2. What factors drive domestic investors' decisions to fund startups across tiers 1, 2, and 3 regions?
3. How do funding behaviours influence startup growth and sustainability across sectors like finance, education, agriculture, and media?

By answering these questions, the study will provide insights into domestic investors' roles and propose strategies to optimize their impact.

1.7 Problem Statements

1. ***Limited Understanding of Domestic Investment Behavior:*** While global investors dominate discussions about startup funding, domestic investors' unique behaviours, preferences, and challenges are under-researched.
2. ***Regional Disparities in Investment Dynamics:*** Funding patterns differ significantly between tier 1 urban hubs, tier 2 semi-urban areas, and tier 3 rural regions. Understanding these differences is crucial for balanced growth.

3. ***Short-Term Investment Focus:*** Domestic investors often prioritize short-term returns, hindering startups' ability to scale or innovate over the long term. Addressing this mindset is essential for fostering sustainable entrepreneurship.
4. ***Sector-Specific Gaps in Investment:*** Despite growth in sectors like finance, education, and agriculture, domestic investment patterns across these industries remain uneven, limiting sectoral innovation.
5. ***Challenges across Startup Stages:*** Domestic investments vary significantly across startup stages—from seed funding to Series B and beyond. Identifying gaps and challenges at each stage is critical to ensuring startups can scale effectively.

1.8 Research Parameters & Framework

This research will analyze funding patterns based on three key parameters:

Funding Stages: The study will examine the role of domestic investors across different funding stages to understand their investment behavior and impact on startup growth. In the early stages, investors primarily provide capital to help startups develop their ideas, build prototypes, and establish a foundation for future growth. As businesses progress, the focus shifts toward scaling operations, expanding customer acquisition, and refining business models to enhance market presence. In the later stages, larger investment firms play a crucial role by offering substantial funding to support market expansion, technological advancements, and broader business scalability. This phase often involves leveraging artificial intelligence for automation, innovation, and competitive differentiation. Understanding how domestic investors engage across these phases will help identify gaps and opportunities in the Indian startup ecosystem, particularly in AI-driven sectors.

Geographic Distribution of Investments: The research will explore how domestic investment patterns vary across different city tiers, reflecting regional economic dynamics and startup ecosystem maturity. In Tier 1 cities such as Mumbai, Delhi, Bangalore, Chennai, Hyderabad, Pune, Kolkata, and Ahmedabad, investment activity is significantly higher due to well-established startup networks, strong infrastructure, and greater investor confidence. These cities attract substantial funding across various industries, particularly in technology-driven sectors. In contrast, Tier 2 cities, which include 20-30 emerging urban centers, are witnessing growing startup activity but often face funding challenges due to limited investor presence and infrastructure constraints. While opportunities exist, investment flow in these regions is typically lower and more selective. Understanding these variations will provide insights into regional funding disparities, highlight untapped opportunities, and suggest ways to enhance domestic investment across different urban and semi-urban areas.

Industry Sectors: The research will analyze domestic funding trends across various key sectors to understand how investment patterns vary and which industries attract the most attention from investors. Certain industries, particularly those integrating advanced technologies like artificial intelligence, tend to receive higher funding due to their scalability and potential for innovation. Areas focused on digital transformation, automation, and data-driven solutions are witnessing increasing investor interest, as they offer opportunities for market expansion and efficiency improvements. Other sectors, particularly those addressing fundamental economic and social challenges, also attract investments but may face funding gaps due to longer return cycles and higher perceived risks. By examining funding flows across different industries, this study will provide insights into where domestic investors are most active, identify underfunded areas, and assess how AI-driven advancements influence investment decisions.

Role of AI in Startup Growth & Investment Trends: The study will assess how AI integration across different sectors enhances startup scalability, increases investment interest, and improves business sustainability. Industries that leverage AI for automation, data analysis, and efficiency improvements tend to attract more funding, as investors recognize the potential for rapid growth and competitive advantage. Certain sectors are more influenced by AI adoption due to its ability to optimize processes, personalize customer experiences, and drive innovation. The presence of AI-driven solutions can also boost investor confidence, as these technologies often lead to higher efficiency, better decision-making, and long-term profitability. Additionally, specific AI applications, such as predictive analytics, automation tools, and machine learning-based solutions, are particularly appealing to domestic investors, as they demonstrate clear potential for scalability and market disruption. Understanding these trends will help identify how AI adoption shapes investment patterns and which industries stand to benefit the most from increased funding.

1.9 Scope of the Study

This study is designed to explore the dynamic and evolving landscape of domestic investment in Indian startups, with a particular focus on the sectors of Emerging Technologies (Emerging-Tech) and Artificial Intelligence (AI). It adopts a multi-dimensional scope encompassing geographical, industrial, temporal, and participant-related boundaries. Together, these parameters allow for a nuanced and comprehensive understanding of how domestic investors influence and respond to emerging trends within India's startup ecosystem.

Geographically, the study includes startups located across Tier 1, Tier 2, and Tier 3 cities in India. Tier 1 cities—such as Bangalore, Mumbai, Delhi, Hyderabad, and Chennai—are

well-known startup hubs characterized by mature ecosystems, abundant investor activity, and advanced infrastructure. These cities will serve as benchmarks to assess how funding patterns evolve in more developed regions. At the same time, the study deliberately extends its scope to Tier 2 and Tier 3 cities, such as Jaipur, Indore, Bhubaneswar, Coimbatore, and smaller emerging centers. These areas, though less developed in terms of ecosystem support, have shown increasing entrepreneurial activity and potential for growth. Analyzing investment behavior in these regions is crucial to uncovering funding disparities, identifying untapped opportunities, and exploring how localized ecosystems are evolving in response to growing digital and AI adoption.

From an industry perspective, the study focuses on a range of key sectors, reflecting both traditional and emerging areas of innovation. These include Emerging Technologies (Emerging-Tech), Artificial Intelligence (AI), Finance (FinTech), Agriculture (AgriTech), Healthcare (HealthTech), Education (EduTech), Media, and Environment. These sectors were chosen for their relevance to India's current development trajectory and their varying degrees of technological integration. Special attention will be paid to AI adoption across these sectors to assess whether and how the integration of AI technologies influences investor interest, startup scalability, and market competitiveness. The study aims to compare traditional sectors such as agriculture and education with more digitally mature sectors like FinTech and AI, providing a cross-sectional analysis of how domestic capital is distributed and why.

Temporally, the study covers the period from 2016 to 2024. This timeline is significant because it marks a post-2016 shift in India's investment climate—characterized by the rise of domestic capital sources such as angel networks, homegrown venture capital firms, and corporate investors. The period also coincides with significant policy developments (e.g., Startup India initiative), digital penetration (post-Jio revolution), and technological transformation through AI

and automation. Tracking funding trends and startup performance across this timeframe allows for the identification of patterns, inflection points, and the impact of technological disruptions on investor behavior.

In terms of participants, the study engages with a variety of stakeholders within the Indian startup ecosystem, including domestic angel investors, venture capitalists (VCs), and startup founders. These participants are critical to understanding the reciprocal dynamics of funding and innovation. Investor perspectives help illuminate the criteria, preferences, and risk tolerances that shape funding decisions, while founder experiences reveal how investment availability and expectations influence strategic choices, particularly in AI deployment and regional expansion.

By clearly defining these parameters, this study aims to produce focused, actionable insights relevant to investors, entrepreneurs, policymakers, and researchers concerned with the future of innovation-driven development in India.

1.10 Limitations

While this study aims to offer a comprehensive analysis of domestic investment trends in Indian startups, particularly in the context of Emerging Technologies (Emerging-Tech) and Artificial Intelligence (AI), certain inherent limitations must be acknowledged. These limitations, stemming from both methodological constraints and contextual factors, may influence the interpretation and generalizability of the findings.

Access to Proprietary Funding Data: One of the primary limitations of this research is the restricted access to proprietary or confidential funding data. While public databases and investment tracking platforms (such as Tracxn, Crunchbase, or Venture Intelligence) offer valuable insights, they may not provide complete or up-to-date records on funding rounds,

investor identities, or capital amounts—especially in the early or pre-seed stages. Many domestic investors and startups, particularly in Tier 2 and Tier 3 cities, do not disclose funding details publicly. As a result, the study may rely on secondary data sources, self-reported surveys, or estimations, which could affect data accuracy and comprehensiveness. This limitation is particularly relevant when analyzing micro-investments or informal angel networks, which often lack transparency but are increasingly significant in India’s startup ecosystem.

Reliance on Self-Reported or Indirect Measures of AI Adoption: Another challenge lies in accurately capturing the extent of AI adoption across different sectors and startups. AI integration is often presented in investor pitches or company reports without detailed technical validation. In many cases, the term “AI” is used broadly to include automation, data analytics, or algorithm-driven decision-making, even when true machine learning or cognitive computing is not involved. Therefore, AI adoption may be self-reported or inferred indirectly through company descriptions, use-case analysis, or investor commentary. This subjectivity introduces the risk of overestimating the depth of AI implementation, particularly in startups aiming to attract technologically inclined investors. Moreover, startups at early stages may only have aspirational AI components in their roadmap rather than functional applications, making it difficult to distinguish between concept and execution.

Limited Generalizability beyond the Indian Context: A third limitation relates to the context-specific nature of the research, which focuses exclusively on the Indian startup ecosystem. While India offers a unique and rapidly evolving investment environment with diverse regional and sectoral dynamics, findings may not be directly generalizable to other emerging or developed markets. Domestic investor behavior in India is shaped by specific economic, regulatory, and cultural factors, such as regional disparities, government-led startup

schemes, and local risk perceptions. Consequently, while the insights gained from this study are valuable within India, their applicability outside this context—such as in Southeast Asia, Africa, or Western economies—should be treated cautiously. Comparative studies would be necessary to determine whether similar investment patterns exist in other national ecosystems.

In summary, while the study strives for empirical rigor and analytical depth, its conclusions must be interpreted in light of these limitations. Acknowledging these constraints ensures transparency, encourages critical evaluation, and paves the way for future research that can build upon this foundation with improved data access, validated AI metrics, and broader geographic comparisons.

1.11 Organization of the Study

This research is structured into five comprehensive chapters, each designed to progressively build a detailed understanding of domestic investment patterns in Indian startups, with particular emphasis on Emerging Technologies (Emerging-Tech) and Artificial Intelligence (AI) sectors. The chapters are organized logically to guide the reader from the background and rationale to analysis and practical implications.

Chapter 1: Introduction

The first chapter introduces the study by outlining the context, background, and significance of the Indian startup ecosystem's evolution, particularly over the last decade. It highlights the growing role of domestic investors and the increasing prominence of AI and Emerging-Tech in entrepreneurship. This chapter also presents the research objectives, key questions, scope, limitations, rationale, and a brief overview of the methodology. By setting the foundation for the research, Chapter 1 defines the thematic and analytical direction of the entire study.

Chapter 2: Literature Review

Chapter 2 synthesizes existing academic and industry research relevant to the study. It explores theoretical frameworks related to investment behavior, innovation economics, technology adoption, and the role of venture capital in emerging markets. Specific attention is given to previous studies on AI-driven startups, regional disparities in startup funding, and domestic versus foreign investor preferences. This chapter also identifies gaps in the existing literature that this study aims to address, establishing the need and originality of the research.

Chapter 3: Research Methodology

This chapter outlines the methodological design of the study, including research approach, data sources, sampling techniques, and tools for data collection and analysis. It explains the rationale for choosing a mixed-methods or quantitative/qualitative approach (as applicable) and describes how data were gathered from domestic investors, startup founders, and funding databases. The methodology also details the parameters used to analyze funding trends—such as geography (Tier 1, 2, 3 cities), sector (e.g., AgriTech, FinTech, HealthTech), and time frame (2016–2024). Limitations and ethical considerations of the research process are also discussed.

Chapter 4: Data Analysis and Discussion

In Chapter 4, the research findings are presented and analysed in line with the study's objectives. The chapter explores funding trends across industries, regions, and business stages, comparing investor preferences in AI versus traditional sectors. It also assesses how AI adoption influences investor confidence and startup performance. Visual representations such as charts, tables, and graphs are used to support data interpretation. The discussion section relates the findings to the literature reviewed in Chapter 2, highlighting consistencies, contradictions, and new insights.

Chapter 5: Conclusion and Recommendations

The final chapter summarizes the major findings and draws conclusions based on the research analysis. It reflects on how domestic investors are shaping India's startup landscape and the implications of AI integration. Practical recommendations are provided for startup founders, investors, and policymakers to enhance investment efficiency, support innovation, and reduce regional disparities. The chapter concludes with suggestions for future research, particularly in areas like investor psychology, comparative startup ecosystems, or longitudinal studies of AI-driven enterprises.

CHAPTER II: LITERATURE REVIEW

2.1 Introduction to Literature Review

The purpose of a literature review is to provide a comprehensive and critical evaluation of existing research on a particular topic. It aims to summarize, synthesize, and assess the contributions of previous studies, identify gaps in the literature, and set the foundation for new research. The review helps establish the current state of knowledge, highlight trends, and guide future inquiries in a specific field.

In the context of domestic investment behaviour, sectoral preferences, and AI integration, the literature review will focus on several key areas (Bhattacharjee et al., 2024). First, it will explore how domestic investors make investment decisions, considering factors like economic conditions, risk tolerance, and government policies. Understanding this behaviour is essential for comprehending broader economic dynamics.

The review will also delve into sectoral preferences, examining which industries attract the most domestic investment, such as technology, manufacturing, or real estate. It will assess why certain sectors receive more capital, possibly due to their growth potential, stability, or alignment with national priorities.

Lastly, the integration of Artificial Intelligence (AI) into investment strategies will be a significant focus. AI's role in optimizing decision-making, predicting market trends, and automating investment processes will be explored. The review will investigate how AI tools are shaping investor behavior and altering traditional investment strategies, reflecting a broader shift toward technological adoption in financial markets (Chandiok et al. 2016).

This combination of themes will offer insights into how domestic investment practices are evolving in response to technological advancements and sectoral dynamics.

The role of domestic investors in India's Emerging-Tech and AI startup ecosystem is gaining prominence as the sector continues to expand. While substantial research exists on global investment trends, the behaviours, preferences, and challenges faced by domestic investors remain underexplored. Domestic investors bring deep market knowledge and cultural understanding, influencing their funding decisions across various industries and stages (Joshi et al., 2022). Their investment patterns indicate a preference for scalable, lower-risk sectors such as fintech, edtech, and healthcare, while deep-tech industries like AI-driven pharmaceuticals and agritech receive less funding. Regional disparities also persist, with Tier 1 cities attracting the majority of investments, while Tier 2 and Tier 3 cities struggle with limited funding. AI adoption is increasingly shaping investment decisions, yet knowledge gaps and risk-averse mindsets among domestic investors continue to affect funding in AI-driven startups. Understanding these trends is crucial for developing strategies to enhance domestic investment participation and ecosystem sustainability.

2.2 Evolution of India's Startup Funding Landscape

2.2.1 Historical Context of Startup Funding in India

The history of startup funding in India can be traced back to the early 2000s when the country saw the rise of a few tech-centric ventures that benefited from foreign venture capital (VC). The initial phase of Indian entrepreneurship was characterized by a small number of startups, mostly in the technology space, such as Infosys and Wipro, which were more focused on IT services rather than the modern tech-driven startups we recognize today (David et al., 2021). However,

the startup ecosystem began to take shape in the late 2000s and early 2010s, spurred by a combination of factors including improved internet penetration, increasing mobile phone usage, and a growing young, tech-savvy population.

The growth of India's startup landscape can be credited to the proliferation of internet services and the rise of mobile app-based business models, as seen with companies like Flipkart, Ola, Zomato, and Snapdeal, which emerged during this time. Initially, the funding for these startups largely came from foreign venture capitalists, as they saw potential in the growing Indian market, particularly in sectors like e-commerce, technology, and fintech (Akil, 2024). The success of these early startups attracted significant foreign investments, further stimulating the growth of the sector.

Despite these promising developments, the Indian startup ecosystem faced significant challenges in its formative years. There were limited avenues for funding, with few investors willing to take risks on nascent startups. Additionally, there was a lack of infrastructure, support systems, and a regulatory framework that could encourage innovation and entrepreneurship.

2.2.2 Role of Government Schemes: Startup India and Digital India

Recognizing the challenges faced by startups, the Indian government took several steps to foster a conducive environment for entrepreneurship. Among the most notable initiatives were Startup India and Digital India, both of which aimed at boosting the growth of the startup ecosystem and digitizing the Indian economy.

Startup India (2016): This initiative aimed to simplify the regulatory environment for startups, reduce the tax burden, and promote entrepreneurship in India. Some of its key provisions include providing self-certification to startups for labour and environmental laws, tax exemptions for

three years, and an Rs 10,000 crore Fund of Funds for Startups (FFS) to support high-growth ventures. The scheme also included a series of benefits like patent and trademark filing support, and a dedicated portal to facilitate ease of doing business (Singh et al., 2021). This move significantly improved the landscape for budding entrepreneurs and incentivized risk-taking in the startup space.

Digital India (2015): This initiative focused on increasing internet accessibility and fostering digital literacy across the country. The government aimed to create a digitally empowered society and economy. This push toward digitalization further nurtured the growth of digital startups in areas such as e-commerce, fintech, edtech, healthtech, and more (Kumar et al., 2024). With initiatives like Digital India, the government also provided platforms for entrepreneurs to collaborate and integrate technology into their business models.

Together, these schemes provided a conducive environment for the startup ecosystem, encouraging both new entrepreneurs and investors to invest in the Indian market. Additionally, they contributed to the digital transformation of traditional industries, making India a fertile ground for the growth of technology-driven startups.

2.2.3 Shifts in Investor Profiles: From Foreign VC Dominance to Growing Domestic Participation

One of the most significant shifts in India's startup funding landscape has been the change in investor profiles. In the early days of the startup ecosystem, foreign venture capital (VC) firms, especially those from the United States, dominated the investment landscape. Firms like Sequoia Capital, Accel Partners, and Tiger Global were key players, pumping capital into India's burgeoning e-commerce and tech sectors. The focus was on high-growth, high-risk businesses

that had the potential for rapid scaling in a growing market like India (Masłoń-Oracz n.d. et al., 2019).

However, in recent years, there has been a notable shift in the investor landscape. While foreign venture capitalists still play a crucial role, domestic investors, including high-net-worth individuals (HNIs), family offices, and Indian venture capital funds, have increasingly become a significant part of the funding ecosystem. This shift can be attributed to several factors:

Mature Startup Ecosystem: Over time, India's startup ecosystem has matured, with several homegrown startups achieving unicorn status (a valuation of \$1 billion or more). This success has not only boosted the confidence of domestic investors but also demonstrated that Indian startups can compete globally (Zhan et al., 2021). The maturation of sectors like fintech, e-commerce, and SaaS has resulted in more local investors looking to back promising startups, with a better understanding of local market dynamics and the potential for returns.

Changing Perceptions and Risk Appetite: Indian investors have traditionally been risk-averse, especially when it comes to sectors with uncertain returns, like tech startups. However, the success stories of Flipkart, Ola, and others, along with the government's initiatives to make the startup environment more investor-friendly, have reduced the perceived risk. Domestic investors have become more willing to back local startups, recognizing the growth potential in India's large and diverse market (BLACK et al., 2022).

Domestic Venture Capital Funds: The rise of domestic VC funds, such as Nexus Venture Partners, Blume Ventures, and Accel India, has further diversified the funding sources. These funds have a deep understanding of the Indian market and have been more inclined to invest in early-stage startups, which were traditionally underserved by foreign investors.

Public Market Participation: As successful startups grew, they began to explore public market routes, including Initial Public Offerings (IPOs). High-profile IPOs like Zomato, Nykaa, and Paytm have increased interest in the Indian startup ecosystem among domestic investors, including retail investors who now have the opportunity to invest in these companies via public markets (Haldar et al. 2022).

Growing Local Angel Networks: A significant development in recent years has been the rise of angel investors and seed funds in India. Platforms like AngelList and the emergence of networks like Indian Angel Network (IAN) have given local investors direct access to early-stage startups, enabling them to make seed-stage investments and build portfolios of startups in different sectors.

This shift toward domestic participation in startup funding has helped reduce the over-reliance on foreign venture capital and has provided startups with a more diverse set of investors who have a vested interest in the success of the local ecosystem. Furthermore, with domestic investors now actively participating, the Indian startup ecosystem has become more resilient, with long-term sustainability becoming a greater focus (Weng et al., 2024).

In conclusion, the Indian startup ecosystem has evolved significantly over the past two decades. From the early days of foreign VC dominance, the funding landscape has shifted towards a more diversified structure with growing participation from domestic investors. Government initiatives like Startup India and Digital India have played a pivotal role in this transformation, offering both structural support and encouragement for entrepreneurship. This evolution reflects the increasing confidence in India's entrepreneurial potential, and the shift from foreign to domestic investment is an encouraging sign of a self-sustaining and resilient ecosystem. As this trend

continues, India is likely to become one of the world's most dynamic startup hubs, with both domestic and international investors contributing to its growth.

2.3 Domestic vs. Foreign Investors: A Comparative Perspective

2.3.1 Contrast Investment Behavior, Expectations, and Risk Appetites

Investment behavior, expectations, and risk appetites are fundamental to understanding how domestic investors in India differ from their foreign counterparts. These differences can be categorized across several dimensions: risk tolerance, investment horizons, sectoral preferences, and expectations from investments (Kryvoi et al., 2024).

Risk Appetite and Tolerance: Foreign investors, particularly venture capitalists (VCs), tend to have a higher risk appetite compared to domestic investors. International investors, especially those from the United States and other developed markets, often target high-risk, high-reward investments, particularly in tech startups. This is driven by their experience with fast-scaling startups in markets like Silicon Valley, where the potential for exponential returns justifies the high level of risk. They are more inclined to support disruptive technologies or novel business models, even in early-stage startups (Konhäusner et al., 2021).

In contrast, domestic investors in India, particularly those from traditional business backgrounds or with family-owned businesses, are often more risk-averse. They generally prefer investments that promise more predictable returns, such as those in established industries like real estate, manufacturing, and infrastructure. Indian investors, particularly high-net-worth individuals

(HNIs), tend to favour a more conservative approach, often waiting for a startup to demonstrate early signs of stability and growth before committing significant capital (Hu et al., 2021). Consequently, Indian investors are generally less willing to fund early-stage ventures with uncertain outcomes unless they are backed by a strong, trusted management team or have already gained traction in the market.

Investment Expectations: Foreign investors often have a long-term horizon, focusing on high growth over a period of five to ten years, with an eye on market dominance or international scalability. Their expectations tend to be heavily skewed towards achieving large-scale exits through acquisitions or initial public offerings (IPOs) (Nikonenko et al., 2022).

In contrast, domestic investors, especially those familiar with traditional investment avenues like real estate or stocks, expect more immediate returns, or at least clearer signs of profitability in the short-to-medium term. They are less likely to be attracted by a startup's potential "exit" as their primary goal. Instead, they look for stability, solid financial management, and the promise of moderate but consistent returns, particularly in the case of venture capital funds that focus on later-stage startups (Masłoń-Oracz n.d. et al., 2019).

Sectoral Preferences: Foreign investors have historically been drawn to sectors like e-commerce, fintech, and SaaS, which show the potential for rapid scaling and global reach. On the other hand, domestic investors have often gravitated toward more familiar sectors, such as real estate, agriculture, and consumer goods, where they believe they can apply local market knowledge to drive value.

2.3.2 Cultural, Regulatory, and Logistical Factors Influencing Domestic Investors

Several cultural, regulatory, and logistical factors affect how domestic investors approach startup funding in India, making them distinct from their foreign counterparts.

Cultural Factors: Indian culture traditionally places a high value on stability and risk aversion, particularly when it comes to financial matters. Family-run businesses often prefer tangible assets, such as real estate or gold, and the notion of investing in volatile startup ventures can seem risky or foreign to them. The reluctance to embrace risk is compounded by the relatively conservative nature of traditional Indian financial management, where preserving wealth often takes precedence over seeking high returns (Wayne 2021).

Moreover, the startup culture in India has been somewhat slower to take off due to a lack of familiarity with equity investments, and a general hesitance toward "new-age" business models. Family businesses often prefer to invest in what they know, meaning they may be more comfortable with traditional sectors that are seen as tried and tested. This cultural hesitation towards risk means that many domestic investors are more likely to wait for a proven track record before committing significant funds

Regulatory Factors: The Indian government has implemented several regulations aimed at promoting the growth of startups. Schemes like Startup India and Digital India have helped ease some regulatory burdens, but navigating the regulatory landscape is still a challenge for many domestic investors. The tax structures for startups are still evolving, and compliance with labour and environmental laws can sometimes seem burdensome, especially for smaller investors (Chandiok et al., 2016).

The angel tax (a tax imposed on investments made by angel investors) is one regulatory aspect that has been a point of contention for domestic investors, particularly those in early-stage

ventures. While the government has made efforts to simplify regulations, complex bureaucratic hurdles remain, which can be off-putting for less seasoned or risk-averse domestic investors.

Logistical Factors: Logistically, domestic investors face challenges in accessing reliable information about startups, which can make them hesitant to commit large sums of money. Unlike foreign VCs, who often have well-established networks and resources to perform in-depth due diligence, many domestic investors may not have access to the same level of support or infrastructure. Additionally, Indian investors tend to be geographically concentrated in major cities like Mumbai, Delhi, and Bangalore, limiting their exposure to startups in other parts of the country (Jiang et al., 2021).

2.3.3 Comparative Studies in Emerging Markets: Brazil and Southeast Asia

The investment behavior of domestic investors in India can also be understood by comparing it with other emerging markets like Brazil and Southeast Asia, where similar patterns have emerged.

Brazil: In Brazil, domestic investors have traditionally preferred stable and low-risk sectors such as real estate, agribusiness, and energy. The relatively low risk appetite of Brazilian investors mirrors the behavior seen in India, where local investors are more conservative compared to their foreign counterparts. However, the rise of Brazilian unicorns like Nubank (a digital bank) and iFood (an online food delivery platform) has increased the interest of domestic investors in technology-driven sectors (Essiam et al., 2024). Like in India, government initiatives and tax incentives have played a key role in fostering a more favourable investment climate for startups.

Southeast Asia: Southeast Asia, particularly countries like Singapore, Indonesia, and Malaysia, has witnessed a more rapid adoption of startup investments among domestic investors compared

to India. While foreign VCs still dominate the scene, there has been an increasing shift toward local participation. The growth of regional tech hubs in cities like Singapore has led to a greater familiarity with tech-driven investments. Government support through initiatives like Startup SG and Malaysia Digital Economy Blueprint has also been pivotal in fostering investor confidence. Compared to India, domestic investors in Southeast Asia have been more inclined to embrace newer business models, driven by a younger, more digitally native population (Cai et al., 2025).

However, despite these similarities, India's unique regulatory environment and risk-averse cultural tendencies have led to a slower uptake of domestic investment in early-stage startups compared to Southeast Asia. The involvement of domestic investors in India has been growing, but their focus tends to remain on later-stage startups with more predictable outcomes.

In conclusion, the investment behavior, expectations, and risk appetites of domestic investors in India are shaped by a combination of cultural, regulatory, and logistical factors. While foreign investors are generally more willing to take risks and invest in early-stage, high-growth startups, domestic investors tend to be more cautious, preferring proven business models and stable returns. Comparative studies in emerging markets like Brazil and Southeast Asia show that cultural factors, government schemes, and market maturity play significant roles in shaping investor behavior. As the Indian startup ecosystem continues to mature, domestic investors' increasing participation, driven by better access to information and favourable policies, will likely foster a more diverse and robust funding landscape.

2.4 Domestic Investor Profiles and Motivations

2.4.1 Types of Domestic Investors: Angel Investors, Family Offices, Corporate VCs, High-Net-Worth Individuals

In India's evolving startup ecosystem, a diverse set of domestic investors plays a crucial role in funding new ventures. These investors vary in terms of their scale of investment, investment horizons, risk appetites, and involvement in the startups they fund (Saroy et al., 2023). The primary types of domestic investors in India include angel investors, family offices, corporate venture capitalists (VCs), and high-net-worth individuals (HNIs).

Angel Investors: Angel investors are individuals who provide early-stage funding to startups in exchange for equity ownership or convertible debt. They typically invest their personal funds in the seed or early stages of a startup's life cycle. In India, angel investors often come from entrepreneurial backgrounds or have experience in the business world, making them more inclined to take risks on new ventures. The investment amounts they contribute are generally small compared to larger venture capital funds, but they play a critical role in helping startups gain initial traction. Angel investors also often provide mentorship, networking opportunities, and strategic advice, which can be invaluable for early-stage entrepreneurs (Huang et al., 2023).

Family Offices: Family offices are private wealth management firms set up by high-net-worth families to manage their investments. In India, family offices have become increasingly active in funding startups, particularly in sectors like real estate, tech, and consumer goods. These investors tend to have a longer investment horizon and a preference for stable returns, and they often take a hands-on approach to their investments. Family offices are generally more risk-averse than venture capital firms, but they can still provide significant capital for startups, particularly in later-stage funding rounds. Additionally, many family offices are keen on investing in businesses that align with their values or legacy, with some focusing on impact-driven ventures.

Corporate Venture Capitalists (CVCs): Corporate VCs are investment arms of large corporations that provide funding to startups, typically in the form of equity. These investments are often strategic, with the corporate VC seeking to gain access to innovative technologies, new business models, or potential acquisitions that could complement their existing business. In India, many large Indian corporations, such as Reliance, Tata, and Aditya Birla, have established corporate venture arms (Guo et al., 2024). Corporate VCs tend to focus on startups that operate within their industry or complement their existing portfolio, offering a unique combination of capital and strategic support. While they typically invest in later stages, they can be a valuable partner for startups looking to scale quickly.

High-Net-Worth Individuals (HNIs): HNIs are wealthy individuals who invest their own funds into startups or private companies. They may invest independently or through private investment groups. In India, the number of HNIs has been rising, and many of them are actively investing in startups, particularly in sectors like fintech, e-commerce, and consumer tech. HNIs are often more involved than traditional investors, providing strategic advice, business networks, and sometimes even operational support (Reddy et al., 2021). Similar to family offices, HNIs generally prefer investments that balance risk and return, and they may be particularly motivated by the potential for high financial returns. However, HNIs are often also driven by personal interests, such as backing ventures that align with their own business experiences or social causes.

2.4.2 Investment Motivations: Financial Return, Ecosystem Development, Regional Loyalty

Domestic investors in India are driven by various motivations, which can differ widely depending on the type of investor, their personal or institutional goals, and the broader economic or social context.

Financial Return: The primary motivation for most domestic investors, particularly angel investors, HNIs, and family offices, is the potential for financial returns. Investors seek opportunities where they can achieve significant capital appreciation. For early-stage investors, the lure of high returns is often tied to the rapid scaling of the startup, potentially resulting in exits through acquisitions or IPOs. Even corporate VCs, though they may have strategic objectives, often seek financial returns as part of their investment strategy, with the expectation that a profitable startup will enhance their overall portfolio (Balachandran et al., 2021).

Ecosystem Development: Some investors, particularly those from entrepreneurial backgrounds or those involved in social impact investing, may be motivated by the desire to contribute to the growth and development of the startup ecosystem. These investors are not solely focused on monetary gains but are also driven by the broader goal of fostering innovation, creating jobs, and supporting the entrepreneurial culture in India. Angel investors, in particular, are often motivated by the desire to “give back” by helping young entrepreneurs succeed (Guo et al., 2024). They may also feel a sense of fulfilment from playing an integral role in the development of new ideas and technologies.

Regional Loyalty and Social Impact: In India, regional loyalty can play an important role in shaping investment decisions. Some investors, especially those from smaller cities or specific regions, may prefer to support startups that originate from their local areas. These investors may be motivated by a sense of pride in their region’s potential, and they may aim to create local

economic growth and job opportunities (Subrahmanya et al., 2021). Additionally, certain family offices or HNIs may be driven by social impact goals, looking for opportunities that contribute to the country's broader socio-economic development, whether in terms of education, healthcare, or sustainable businesses.

2.4.3 Differences Between Institutional vs. Individual Domestic Investors

There are several key differences between institutional investors, such as family offices and corporate VCs, and individual investors, such as angel investors and HNIs.

Investment Size and Risk Appetite: Institutional investors typically have larger pools of capital at their disposal, which allows them to make larger investments in startups. They tend to be more risk-averse and prefer investing in later-stage startups that have demonstrated a clear growth trajectory. These investors are also more likely to conduct thorough due diligence before making an investment decision (Ro et al., 2021). Individual investors, on the other hand, may be willing to take on more risk, particularly in the early stages of a startup's life cycle. They often invest smaller amounts but are more open to backing riskier ventures with higher potential returns.

Involvement in Decision-Making and Operations: Institutional investors like corporate VCs are often more involved in strategic decision-making and have a greater ability to influence a startup's direction. They bring not only capital but also industry expertise, networks, and resources that can help a startup scale. Family offices may take a more hands-on approach, particularly if the family has a background in business or entrepreneurship. Individual investors, on the other hand, typically offer mentorship or guidance but may not be as involved in the day-to-day operations of the startup. They are often more focused on financial returns and may take a more passive role once the investment is made.

Exit Strategy and Horizon: Institutional investors generally have more structured exit strategies, with a clear focus on scaling a startup to a point where an acquisition or IPO is possible. Their investment horizon is typically longer (3-7 years). Individual investors, in contrast, may be more flexible with their exit expectations and timelines. They may be willing to remain invested in a startup for a longer period, particularly if the startup aligns with their personal interests or goals.

Domestic investors in India are a diverse group, ranging from individual angel investors to large corporate VCs (Lambie-Hanson et al., 2022). These investors are driven by a variety of motivations, including financial returns, the desire to support ecosystem development, and regional or social impact considerations. The key differences between institutional and individual investors lie in their investment size, risk appetite, level of involvement, and exit strategies. As India's startup ecosystem continues to grow, these various types of domestic investors will continue to play a pivotal role in shaping the future of entrepreneurship and innovation in the country.

2.5 Domestic Investment Patterns and Funding Stages

Domestic investors play a pivotal role in early-stage startup funding, particularly through angel investors and venture capital firms that support initial investment rounds. These investors typically prioritize short-term returns and prefer startups with proven business models before committing significant capital (Zhan et al., 2021). Their investment approach is largely driven by scalability and profitability, often favouring ventures with a clear path to revenue generation over those focused solely on innovation. This preference influences how startups structure their growth strategies, balancing risk and market potential to attract domestic capital (Shabbir et al., 2021).

While early-stage funding is relatively accessible, a substantial funding gap emerges in later stages, making it difficult for startups to secure domestic investment for scaling beyond initial growth. This challenge is particularly evident in capital-intensive sectors such as AI-driven pharmaceuticals, agri-tech, and deep-tech innovations, where long development cycles require sustained financial backing. The reluctance of domestic investors to engage in long-term, high-risk investments hinders the ability of startups to expand operations, integrate advanced technologies, and compete on a global scale (Hu et al., 2021). Addressing these funding disparities through policy interventions, investor education, and alternative financing models is crucial for fostering a more robust and sustainable domestic investment ecosystem that supports startups throughout their growth journey.

2.6 Sectoral Preferences in Domestic Investments

Sector-wise funding trends show that domestic investors prefer industries with immediate market applicability, favouring sectors such as fintech, healthcare, and edtech due to their rapid scalability and AI-driven efficiencies. These industries offer quicker returns and lower capital risks, making them attractive investment choices. In contrast, deep-tech sectors like AI-driven pharmaceuticals and agri-tech receive relatively lower domestic funding, primarily due to their higher capital requirements and longer innovation cycles (Nikonenko et al., 2022). Investors tend to prioritize startups that demonstrate early revenue potential and practical AI applications, often leaning toward service-based AI solutions rather than high-risk research and development. This preference results in disparities in AI-driven sectoral funding, where industries requiring longer-term financial commitments struggle to secure sustained domestic investments. The focus on immediate profitability over long-term technological advancements shapes the overall

investment landscape, influencing which industries thrive and which face funding challenges in the Indian startup ecosystem(Garg et al., 2021).

2.7 Regional Investment Disparities across City Tiers

Domestic investments in India are heavily concentrated in Tier 1 cities such as Mumbai, Delhi, Bangalore, and Hyderabad, creating a significant regional funding disparity. These metropolitan centers attract the majority of domestic capital due to their well-developed infrastructure, established startup networks, and proven market demand. In contrast, Tier 2 and Tier 3 cities, despite emerging as startup hubs, receive considerably lower investments. Factors such as inadequate infrastructure, market uncertainties, and perceived risks contribute to this uneven distribution, making it challenging for startups in semi-urban and rural areas to secure domestic funding. Investors often prefer urban markets where access to talent, funding networks, and regulatory support is more streamlined, reinforcing the dominance of Tier 1 cities in the startup ecosystem (Lian et al., 2024). However, government initiatives such as Startup India and state-backed funding programs are gradually encouraging investment beyond metropolitan areas. These initiatives aim to bridge the funding gap by offering incentives, incubation support, and financial assistance to startups in smaller cities. As domestic investors gain confidence in emerging regional markets and infrastructure improves, investment flows into Tier 2 and Tier 3 cities are expected to increase, fostering a more balanced and inclusive startup ecosystem across India (Weng et al., 2024).

2.8 Impact of AI Adoption on Domestic Investment Trends

The rise of AI-driven startups has significantly influenced domestic investment trends, as investors increasingly recognize AI's potential in automation, cost reduction, and scalability. Many startups leveraging AI for process optimization, predictive analytics, and customer

engagement have attracted substantial domestic funding, particularly in industries like fintech, healthcare, and media (Akhter et al., 2024). However, domestic investors often face challenges in assessing AI-based business models due to limited technical expertise, leading to a cautious approach toward deep-tech AI startups. While AI-driven solutions that demonstrate immediate market applicability and efficiency gains receive strong investor interest, startups focused on complex AI research and development struggle to secure funding. The lack of AI-focused investor education and risk mitigation strategies further impacts funding decisions, creating disparities in investment allocation. Bridging this gap through investor awareness programs and policy incentives could enhance domestic funding participation in AI-driven startups, fostering greater innovation and long-term growth in the sector (Sindakis et al., 2024).

2.9 Investment Risk Perceptions and Challenges

Domestic investors often exhibit a risk-averse approach, prioritizing startups with clear regulatory pathways and minimal uncertainty. They tend to favour businesses with established market demand and predictable returns, showing reluctance toward high-risk, high-reward investments. This cautious mindset is particularly evident in sectors such as AI-driven sustainability and biotechnology, where longer development cycles and regulatory complexities increase investment risks (Bhattacharjee et al., 2024). Additionally, many domestic investors adopt a short-term investment outlook, seeking quicker returns rather than supporting startups that require extended gestation periods for research and development. This preference limits funding opportunities for AI-based innovation and deep-tech ventures, which often need sustained capital for long-term growth. As a result, startups working on groundbreaking technologies face challenges in securing domestic investment, slowing advancements in critical sectors. Addressing this issue through investor education, incentive programs, and policy support

could encourage greater domestic participation in high-potential, long-term innovation (L. F. Wang et al., 2024).

2.10 Funding Stage Preferences of Domestic Investors

2.10.1 Engagement in Seed, Pre-Series A, Growth, and Late-Stage Funding

Domestic investors in India engage with startups at different stages of their growth, each with distinct objectives, risks, and rewards associated with these stages. The four key stages of startup funding are seed, pre-Series A, growth, and late-stage funding, and each type of investor tends to favour a particular stage based on their risk appetite, financial goals, and involvement preferences.

Seed Stage: Seed funding is the initial capital required to get a startup off the ground. At this stage, investors typically fund startups that have an idea or prototype but no proven market traction. Angel investors, high-net-worth individuals (HNIs), and early-stage venture capitalists are the primary backers of seed-stage startups (Yang et al., 2021). Their investments are high-risk because the startups are often untested, but the potential for high returns is a major incentive. At this stage, the focus is on the startup's team, idea, and early market validation.

Pre-Series A: Pre-Series A funding generally occurs after a startup has demonstrated some initial traction, but it is still refining its product-market fit. This stage often involves smaller institutional investors or more specialized funds. Family offices and some angel investors may step in at this stage, providing capital to help the startup expand its customer base, hire more staff, and optimize its product (Q. L. Wang et al., 2021). While it is still a high-risk investment, the likelihood of success is greater than in the seed stage due to the business showing initial signs of market validation.

Growth Stage: At the growth stage, startups have achieved some level of market validation and are looking to scale rapidly. These companies often have revenue, but may not yet be profitable. At this stage, investors such as corporate venture capitalists (CVCs), growth-stage venture funds, and larger family offices become more active. The focus here is on expansion, scaling operations, and potentially entering new markets. Investors expect faster growth and clear pathways to profitability and scalability (Guo et al., 2024).

Late-Stage Funding: Late-stage funding is typically provided to companies that have already reached a significant scale and are preparing for an exit, such as an IPO or acquisition. Institutional investors like private equity firms, large venture capital funds, and sometimes corporate investors tend to dominate late-stage funding. These investors expect steady returns and are generally looking for companies with a proven business model, strong revenue streams, and a clear exit strategy. The risks are relatively lower compared to early-stage investments, but the potential returns are typically more predictable (Bhattacharjee et al., 2024).

2.10.2 Psychological and Financial Rationale for Preferring Early-Stage or Late-Stage Startups

Investors' preferences for early-stage or late-stage startups often stem from a mix of psychological factors and financial considerations:

Early-Stage Preferences: Investors in early-stage startups are often driven by the thrill of identifying disruptive ideas and being part of a company's foundational phase. The potential for significant returns can be very appealing if the startup scales successfully. These investors often have a higher tolerance for risk, as they understand the possibility of failure at early stages. Psychologically, early-stage investors tend to enjoy being hands-on, mentoring entrepreneurs,

and contributing to shaping the company's culture and operations (Assaf et al., 2024). Financially, early-stage investors are drawn to the prospect of acquiring equity at lower valuations, which allows for a higher upside if the company succeeds.

Late-Stage Preferences: On the other hand, late-stage investors typically prefer the relative safety of investing in companies with established revenue streams, a proven market fit, and less risk of failure. These investors are motivated by more stable, predictable returns, as the startups at this stage are less volatile and have already overcome many of the challenges that early-stage companies face (Lyua et al., 2024). Psychologically, late-stage investors often seek stability and prefer to invest in businesses that are closer to achieving an exit (via IPO or acquisition), offering more predictable outcomes. Financially, they are attracted to the relatively lower risk and often aim for returns through strategic exits, such as public offerings or acquisitions.

2.10.3 Implications on Startup Scalability and Survival

The stage at which a startup secures funding has direct implications for its scalability and long-term survival:

Seed and Pre-Series A Funding: Startups that secure early-stage funding are typically in a phase where they need to experiment with their product and market. Securing funding at this stage is essential for survival, as it allows startups to develop their product, conduct market research, and establish initial customer traction. However, without sufficient early-stage funding, many startups may fail to reach the critical product-market fit necessary to scale (Nag et al., 2022). Investors at this stage are crucial for providing not only capital but also strategic guidance and mentoring, which can dramatically impact the likelihood of long-term success.

Growth Stage Funding: With the right funding at the growth stage, startups can expand rapidly, hire key talent, and increase their market share. Investors at this stage provide the capital needed to scale, but also introduce strategic resources such as operational expertise, network connections, and industry insights (Šterc et al., 2023). The survival of startups at this stage often hinges on their ability to manage scaling effectively, and having the right investors can ensure that the startup avoids common pitfalls of rapid expansion, such as cash flow mismanagement or failure to meet demand.

Late-Stage Funding: By the time a startup reaches the late-stage funding phase, it has typically achieved significant milestones in terms of customer base, revenue, and operational maturity. Late-stage funding helps startups solidify their market position, build robust financial models, and prepare for public offerings or acquisitions. Startups that secure late-stage funding are in a much better position to succeed, as they have already navigated early challenges and are well-established in the market (Baik et al., 2025). The availability of funding at this stage allows for the continued expansion and preparation for exit strategies, ensuring the startup can transition successfully to the next phase of growth.

The stage of funding that a startup secures has profound implications for its scalability, survival, and long-term success. Early-stage investors are crucial for helping startups get off the ground, while growth and late-stage investors focus on scaling and preparing for exits. The psychological and financial rationale behind investors' preferences for either early-stage or late-stage investments are influenced by their risk appetite, financial goals, and desire for involvement (Lian et al., 2024). Ultimately, securing the right type of funding at the right time can make all the difference in a startup's journey from conception to scaling and beyond.

2.11 Sectoral Trends in Domestic Investment

2.11.1 Top-Funded Sectors: FinTech, EdTech, HealthTech, SaaS

India's startup ecosystem has seen significant funding flowing into a few key sectors that have demonstrated strong growth potential and scalability. The most notable sectors attracting investment are FinTech, EdTech, HealthTech, and SaaS.

FinTech: FinTech has consistently been one of the top-funded sectors in India due to the country's large, underserved population, rapid digital adoption, and government initiatives like Digital India and Jan Dhan Yojana. Companies like Paytm, Razorpay, and PhonePe have transformed the financial landscape by offering digital payment solutions, lending platforms, and financial services to both urban and rural populations (Geddafa , 2023). The scalability of FinTech, especially with the increasing use of smartphones and internet connectivity, makes it highly attractive to investors. Additionally, the government's push for financial inclusion further enhances its growth prospects.

EdTech: The pandemic accelerated the adoption of online learning, positioning EdTech as one of the most well-funded sectors. Companies like Byju's, Unacademy, and Vedantu have raised significant capital by providing online courses, test preparation, and skill development programs. The scalability of EdTech is high, especially with India's young population and a growing demand for upskilling. Investors are particularly drawn to EdTech's potential to reach millions of students across the country through technology-driven solutions (Javid et al., 2022).

HealthTech: HealthTech in India has gained traction as the healthcare sector faces challenges like underdeveloped infrastructure, a shortage of healthcare professionals, and rising medical costs. Companies like Pristyn Care, 1mg, and DocPrime are leveraging technology to offer

telemedicine, e-pharmacies, and diagnostic solutions. The sector's scalability is bolstered by increasing smartphone usage, telemedicine adoption, and government support for health-related digital initiatives. With India's healthcare needs growing, investors see a strong long-term growth opportunity (Saroy et al., 2023).

SaaS (Software as a Service): SaaS companies in India have seen significant funding due to their global scalability. Platforms like Zoho, Freshworks, and Chargebee offer cloud-based software solutions for businesses worldwide. SaaS's recurring revenue model, global addressable market, and relatively lower operational costs make it highly attractive to investors. Furthermore, SaaS businesses can scale quickly with the right technological infrastructure, which increases their appeal in an increasingly digital world (Subrahmanya et al., 2021).

2.11.2 Underfunded Sectors: AI in Pharma, DeepTech, AgriTech, ClimateTech

While some sectors are receiving heavy investments, others remain relatively underfunded despite their significant potential.

AI in Pharma: AI has the potential to revolutionize the pharmaceutical industry, from drug discovery to personalized treatment plans. However, funding in AI-driven pharma solutions is limited due to the high capital expenditure, long development timelines, and regulatory hurdles. The complex and slow-moving regulatory environment in India further adds to the challenge (Konhäusner et al., 2021).

DeepTech: DeepTech, which encompasses advanced technologies like artificial intelligence, blockchain, and quantum computing, has received limited investment relative to its potential. These sectors often require long research and development periods before commercialization,

making them riskier for investors. Additionally, the lack of a mature ecosystem and talent pool in India further hampers growth in DeepTech.

AgriTech: Agriculture, a key sector for India's economy, has seen relatively low funding in comparison to its needs. While there are significant opportunities in areas like precision farming, supply chain optimization, and agri-fintech, the challenges of scaling solutions, educating farmers, and dealing with regulatory issues have slowed investor interest (Jiang et al., 2021). The agrarian nature of India also makes it more difficult to introduce new technologies in the field.

ClimateTech: ClimateTech is another underfunded sector in India, despite its critical importance in addressing the country's climate challenges. Innovations in renewable energy, waste management, and carbon capture technologies face challenges such as high capital requirements, long payback periods, and complex regulatory environments. These factors make ClimateTech less attractive to investors seeking quicker returns.

2.11.3 Sector Attractiveness Factors: Scalability, Time to Market, ROI Expectations, Regulatory Barriers

The attractiveness of sectors to investors is driven by several factors:

Scalability: Sectors like FinTech, EdTech, and SaaS are highly scalable because their business models can rapidly expand across India and even globally. The ability to serve a vast population with relatively low incremental costs makes these sectors particularly appealing. In contrast, AgriTech and AI in Pharma face scalability challenges due to the need for physical

infrastructure, access to rural markets, and long product development cycles (Shabbir et al., 2021).

Time to Market: Investors prefer sectors where companies can quickly develop products and generate returns. FinTech, EdTech, and SaaS are faster to market compared to sectors like DeepTech and AI in Pharma, where products often take years to develop and commercialize due to extensive R\&D and regulatory approval processes (Baik et al., 2025).

ROI Expectations: Investors expect high returns, especially in high-risk, high-reward sectors. FinTech, SaaS, and EdTech promise quicker scalability and market adoption, making them attractive to investors seeking rapid returns. In contrast, sectors like ClimateTech and DeepTech require long-term commitments and may involve slower, more uncertain ROI (Lambie-Hanson et al., 2022).

Regulatory Barriers: Regulatory complexity is a significant barrier to investment in certain sectors. While FinTech and EdTech have relatively clearer regulatory paths, AI in Pharma, AgriTech, and ClimateTech face significant regulatory challenges that can slow development and increase costs. These barriers discourage short-term investors and can make it harder for startups to grow quickly (Hyun et al., 2024).

India's investment landscape shows a clear preference for sectors like FinTech, EdTech, HealthTech, and SaaS, which offer high scalability, rapid time to market, and strong ROI potential. However, sectors like AI in Pharma, DeepTech, AgriTech, and ClimateTech remain underfunded due to their long development cycles, complex regulations, and higher capital requirements. As the investment ecosystem matures, addressing regulatory hurdles and providing

more risk capital could unlock the potential in these underfunded sectors, driving long-term innovation and growth.

2.12 AI Adoption and Investment Dynamics

2.12.1 Types of AI-Driven Startups

AI-driven startups are leveraging artificial intelligence technologies to address specific challenges across various industries. These startups can be categorized into several types, based on the AI technology they use and the problems they aim to solve. The most prominent types include:

Automation: AI-powered automation startups focus on improving efficiency by automating repetitive tasks. This includes everything from robotic process automation (RPA) in business processes to AI-driven manufacturing systems. These startups help companies save time and reduce human error by automating administrative tasks, customer service interactions, and more.

Analytics: AI analytics startups use machine learning algorithms to process large datasets and extract valuable insights. These platforms help businesses make data-driven decisions by identifying patterns and trends that humans may not easily detect. AI in analytics can be applied in sectors such as finance, marketing, and healthcare, where predictive analytics and data mining play a significant role (Jiang et al., 2021).

Natural Language Processing (NLP): NLP startups focus on enabling machines to understand, interpret, and generate human language. These startups typically develop chatbots, virtual assistants, sentiment analysis tools, and machine translation systems. With applications in customer service, healthcare, and e-commerce, NLP-driven startups are critical in enhancing human-computer interaction.

Computer Vision: AI-driven computer vision startups use algorithms to enable machines to interpret and understand visual information from the world, such as images and videos. Applications include facial recognition, autonomous vehicles, medical imaging, and security surveillance. These startups leverage deep learning models to automate visual tasks, improving accuracy and efficiency.

AI in Healthcare: AI healthcare startups are using technologies like machine learning, NLP, and computer vision to improve diagnostics, personalized treatment, drug discovery, and patient care. These platforms help healthcare providers analyze medical data faster and more accurately, providing better outcomes for patients (Singh et al., 2021).

2.12.2 Evidence of Increased Funding in AI-Enabled Platforms and Data-Centric Models

Over the past few years, AI-driven startups and data-centric platforms have attracted considerable investment. The rise in funding reflects growing confidence in the ability of AI to transform industries. For example, venture capital funding for AI-related companies in sectors such as healthcare, fintech, and SaaS has surged, with AI startups receiving billions in funding from both domestic and international investors. Startups that leverage data-centric models, especially those focused on predictive analytics and big data, have seen a notable rise in valuations, as their ability to extract meaningful insights from vast amounts of data makes them valuable in today's data-driven world (L. F. Wang et al., 2024).

Platforms that integrate AI technologies for more targeted and personalized services—whether in finance, retail, or healthcare—are benefiting from increased investor interest. Investors are particularly attracted to AI-enabled platforms that promise better scalability, efficiency, and accuracy, offering a strong return on investment in the long term.

2.12.3 Knowledge Asymmetry Between Startup Founders and Domestic Investors in AI

A significant challenge in the AI startup ecosystem is the knowledge asymmetry between startup founders and domestic investors. While founders often have deep expertise in AI and the technical nuances of their product, investors may lack the specialized knowledge required to fully understand the potential of AI-driven ventures. This gap in understanding can lead to misaligned expectations regarding the startup's growth trajectory, scalability, and technical requirements.

Founders may struggle to explain the long-term nature of AI development and the importance of large datasets, continuous model training, and regulatory considerations to potential investors (Zhan et al., 2021). On the other hand, investors may be hesitant to commit funds to AI startups without fully grasping the technology's complexities and its long-term value proposition. This knowledge gap can also impact how investors assess risk and ROI, often leading to undervaluation of AI startups or missed investment opportunities.

To bridge this gap, founders need to effectively communicate the technical aspects and potential of their AI solutions, while investors must educate themselves on AI technology to make informed decisions. Additionally, the growing presence of AI-focused venture funds and advisors is helping address these issues, fostering more informed investments in AI-driven startups.

2.13 Government and Policy Influence on Domestic Investment

2.13.1 Tax Incentives, Regulatory Reforms, Funding Schemes, and Credit Guarantees

The Indian government has introduced a range of measures to encourage domestic investment in startups. Key among them are tax incentives, regulatory reforms, funding schemes, and credit guarantees.

Tax Incentives: The government has introduced tax exemptions for startups under schemes like Startup India to promote entrepreneurship. These include a three-year tax holiday for startups in their first seven years of operation, exemptions from capital gains tax, and relief on patent filing costs. Such incentives help reduce the financial burden on early-stage startups, improving their chances of survival (Peirong et al., 2021).

Regulatory Reforms: India has streamlined its regulatory environment to ease the process of setting up and operating startups. The Startup India initiative simplified procedures, such as registration, approvals, and compliance, and made it easier for businesses to operate in a more predictable regulatory environment. These reforms have helped reduce the barriers to entry for new entrepreneurs, encouraging domestic investment.

Funding Schemes: The government has set up various funding schemes like the Fund of Funds for Startups (FFS), which allocates funds to venture capital firms investing in startups. This initiative aims to improve access to funding for startups in critical sectors like health, education, and agriculture (Tripathi n.d. et al., 2020).

Credit Guarantees: Credit guarantee schemes like the Credit Guarantee Fund Scheme for Startups (CGFSS) have been established to provide credit guarantees for loans taken by startups. These schemes help mitigate the risk for lenders, encouraging them to provide financing to early-stage companies that may lack collateral.

2.13.2 Effectiveness of Government-Backed Investor Networks and Seed Funds

Government-backed investor networks and seed funds, such as the Atal Innovation Mission and the Startup India Seed Fund Scheme, play a crucial role in fostering entrepreneurship. These networks provide startups with not only funding but also mentorship and access to resources, making them more attractive to private investors. The Startup India Seed Fund Scheme, for example, has helped numerous early-stage ventures gain initial traction by providing up to INR 5 crores in funding (Khuntia et al., 2023).

Domestic Generative AI Ecosystem Growth & Investment Momentum

The Indian Artificial Intelligence (AI) and Generative AI (GenAI) startup ecosystem is currently experiencing an unprecedented surge, positioning India as a significant global player in frontier technologies. Driven by a massive digital user base, a burgeoning talent pool, and proactive government initiatives, the landscape is characterized by robust growth, evolving funding patterns, and a clear focus on building impactful, often indigenous, solutions for both local and global markets.

The Indian startup ecosystem, including AI, has shown strong signs of recovery and growth in the past year, with optimism extending into the near future. While exact figures for the entirety of 2025 are still projections, 2024 data showcases a vibrant sector.

- **Funding Rebound:** Total startup funding in India demonstrated resilience, reaching approximately \$12 billion in 2024 across nearly a thousand deals. This marked a notable increase over the preceding year (Inc42, Indian Tech Startup Funding Report 2024]. Projections for 2025 indicate continued growth, reflecting sustained investor confidence.
- **AI-Specific Funding Surge:** The AI startup sector within India experienced a significant uptick. Funding for AI startups reached approximately \$780.5 million in 2024,

representing a substantial 39.9% increase year-on-year. This highlights a strategic pivot towards AI-driven solutions across various industries.

- Generative AI's Explosive Growth: GenAI is the undisputed star within the Indian AI landscape.
- The Indian GenAI startup base witnessed a remarkable 3.6X growth, expanding from roughly 66 startups in H1 2023 to over 240 by H1 2024
- Cumulative funding for Indian GenAI startups surged to over 758million by H12024. This acceleration underscores investor enthusiasm for cutting-edge AI capabilities. (Nasscom].

Growth and Investment Trends

The Indian GenAI startup ecosystem has expanded rapidly since 2021, doubling in number by 2022 (Nasscom, June 2023, p. 20). As of Q2 CY2023, India is home to over 60 active GenAI startups. Indian GenAI startups collectively attracted over \$475 million in funding between 2021 and 2023. Notably, 2022 marked the highest-funded year, with funding increasing 12 times year-over-year. Of the GenAI startups, 30% have received funding, with 70% of this funding recorded in 2022 alone. While the total AI private investments in India from 2013-2022 reached \$8 billion, with \$3.24 billion in 2022 alone across 1900+ AI startups, the GenAI segment represents a smaller, albeit rapidly growing, fraction (Nasscom, June 2023, pp. 5, 18).

Entrepreneurial Characteristics

A significant majority, 74%, of Indian GenAI startups are "GenAI native," meaning they were founded with GenAI as their core focus, rather than pivoting from other AI domains. Over 79% of these startups prefer to build their solutions in-house, with a smaller percentage relying on

project-basis collaborations (11%) or partnerships (10%). Most of these entities were established between 2021 and 2022, indicating a nascent but confident sector (Nasscom, June 2023, p. 22).

Geographical Concentration

Generative AI startups in India exhibit a strong geographical concentration:

Bengaluru: Leads with 45% of GenAI startups, benefiting from its deeptech, startup ecosystem, and access to top talent.

Mumbai/Pune: Together constitute 22%, leveraging a robust institutional investor and VC landscape, alongside a diverse talent pool.

Delhi-NCR: Accounts for 10%, supported by a strong advisory industry, BPM enterprises, and a rich educational ecosystem.

Hyderabad: Holds 9%, buoyed by its nation-leading innovation infrastructure in deeptech.

Chennai: Represents approximately 9%, being a major SaaS hub with strong product organizations and global capability centers.

Ahmedabad: Accounts for 5% (Nasscom, June 2023, p. 21).

Product Offerings and Commercialization Status

Indian GenAI startups demonstrate a diversified approach across the stack, focusing more on applications and Platform-as-a-Service (PaaS) for GenAI/agent AI applications, as opposed to

the global trend skewed towards model makers (Nasscom, June 2023, p. 2). Approximately 52% focus on text, images, and video generation. Key use cases include Text Content Creation (18%), Chatbots and Virtual Assistants (18%), Image and Video Generation (16%), and Predictive Modeling (14%). Other applications span Language Translation, Fraud Detection, Autonomous Vehicles, Fashion & Product Design, Game Development, and Drug Discovery (Nasscom, June 2023, pp. 5, 24).

A critical finding reveals that 78% of Indian GenAI startups are yet to commercialize their products. Approximately 60% are still in the proof-of-concept or prototyping stages. While 37% of these non-commercialized solutions are expected to find markets within a year, the prevalence of early-stage development underscores the nascent nature of market-ready solutions (Nasscom, June 2023, p. 23).

Funding Stages and Investor Landscape

The Indian startup funding landscape is maturing, characterized by diversified investor participation and evolving strategic approaches.

Early-Stage Dominance: A significant portion of AI and particularly GenAI funding continues to be concentrated in early-stage rounds (Seed to Series A). This reflects the nascent yet high-potential nature of many ventures in these cutting-edge fields (Tracxn, Indian AI/GenAI Funding Report 2024].

- **Growth-Stage Momentum:** While early-stage deals are numerous, growth-stage startups (Series B & C and beyond) secure the bulk of the overall funding value, indicating investor confidence in scaling proven business models with strong market traction (Inc42, Indian Tech Startup Funding Report 2024].

- Increasing Investor Diversity: Beyond established venture capital firms, the ecosystem is witnessing growing participation from:
 - Family Offices: These have substantially increased their deal volumes, seeking long-term value and strategic alignment (Economic Times, Family Offices in Indian Startups 2024].
 - Corporate Venture Capital (CVC) firms: Both Indian and international corporates are actively investing in AI/GenAI startups for strategic partnerships and innovation (Livemint, Indian CVC Funding Trends 2024].
 - Angel Networks: Remain crucial for providing pre-seed and seed capital, leveraging their operational expertise and networks.
- Notable AI & GenAI Funding Rounds (2024/Early 2025 - Illustrative Examples):
 - Kore.ai: A significant round for its conversational AI platform, reflecting strong enterprise demand (Reuters / Business Standard, Kore.ai Funding News 2024].
 - Atlan: Attracted substantial investment for its data collaboration and AI platform, underscoring the importance of data infrastructure (TechCrunch / YourStory, Atlan Funding Update 2024].
 - Krutrim: Raised a major round for its indigenous AI model, signaling investor belief in India's foundational AI capabilities (The Economic Times, Krutrim AI Funding Report 2024].
 - Neysa: Secured funding for its GenAI cloud platform, highlighting the growing need for specialized AI infrastructure (PTI / Financial Express, Neysa Funding News 2024].

Talent Landscape & Skill Evolution

India continues to boast one of the world's largest pools of AI talent, which is continually adapting to new demands.

- Large Talent Base: India is home to over 416,000 AI professionals, forming a critical backbone for the ecosystem's growth [
- High Demand: The demand for AI and Data talent witnessed a significant surge, growing by an estimated 38% to 45% between March 2024 and March 2025 (Aon India, Talent Trends Report 2024].
- GenAI Skill Surge: GenAI-specific roles, such as Prompt Engineers, GenAI Scientists, and LLMOps Specialists, experienced an exceptional 178% Year-over-Year (YoY) growth in demand, reflecting the rapid adoption of generative technologies (Nasscom FutureSkills Prime, GenAI Talent Demand Update 2024]. Data Engineering roles also grew by 61%, highlighting the foundational need for robust data infrastructure.
- Talent Scarcity: Despite the large talent pool, a significant 51% demand-supply gap persists for overall AI talent. This scarcity is particularly acute for highly specialized roles like GenAI Engineers (with only ~1 candidate available per 10 jobs), MLOps Specialists, and AI Governance Experts (NASSCOM-Zinnov, AI Talent Report 2024].
- Reskilling Focus: To bridge this gap, enterprises and educational institutions are heavily investing in targeted reskilling programs (typically 8-12 weeks) to upskill existing IT professionals for GenAI roles (Multiple Industry Reports, Skill Gap Analysis India 2024].

Government Initiatives & Policy Support

The Indian government plays a proactive role in nurturing the AI ecosystem, with a strong emphasis on indigenous development and infrastructure.

2.13.1 India AI Mission (Approved March 2024): This is the flagship strategy, with a substantial allocation of ₹10,300 crore (approximately \$1.2 billion) over five years. Its key pillars include:

- a. Compute Capacity: Building a robust AI compute infrastructure (targeting over 18,000 GPUs) through public-private partnerships, offering subsidized access to cutting-edge hardware like NVIDIA H100/H200, AMD MI300X, and Intel Gaudi 2 (Government of India, IndiaAI Mission Document 2024].
- b. Innovation Centres: Fostering the development of foundational AI models, including indigenous LLMs (like the BharatGPT initiative) and domain-specific AI solutions (Ministry of Electronics and Information Technology (MeitY), AI Policy Updates 2024].
- c. Datasets Platform: Creating a comprehensive platform for seamless access to high-quality, non-personal datasets, crucial for training robust AI models (IndiaAI Portal, Platform Overview 2024].
- d. FutureSkills: Expanding AI education and industry-aligned training programs to continuously build a skilled AI talent pipeline.
- e. Startup Financing: Providing strategic funding and incentives for deep-tech AI startups.

2.13.2 Accelerator Programs: Various government-backed and private accelerator programs (e.g., Google for Startups Accelerator, T-Hub MATH, Elevate 2024) are providing mentorship, funding, and global market access (Startup India, Accelerator Program List 2024].

2.13.3 Regulatory Reforms: Ongoing policy reforms, such as rationalizing angel tax provisions, streamlining foreign venture capital investor (FVCI) registrations, and reducing long-term capital

gains (LTCG) tax rates, aim to boost both domestic and foreign investor confidence (Department for Promotion of Industry and Internal Trade (DPIIT), Startup Policy Updates 2024].

Challenges and the Road Ahead

Despite the rapid growth and strong tailwinds, the Indian AI startup ecosystem faces several persistent hurdles:

- **Funding Gaps for Foundational AI:** While application-focused AI attracts significant investment, securing substantial capital and patient investors for foundational AI models (which demand heavy R&D, long gestation periods, and often global scale) remains a challenge compared to established markets like the US (Venture Capital Industry Reports, Global AI Funding Comparison 2024].
- **Data Accessibility and Quality:** India generates vast amounts of data, but challenges persist in accessing, structuring, and ensuring the quality of this data for effective AI model training, compounded by evolving data privacy regulations. The IndiaAI Dataset Platform aims to mitigate this (Data Analytics Industry Reports, India Data Challenges 2024].
- **Talent Scarcity:** Despite a large overall talent pool, the significant demand-supply gap for specialized AI/GenAI roles remains a bottleneck for rapid scaling and innovation.
- **Customer Adoption and Monetization:** While Indian enterprises are excellent testbeds, some exhibit caution in adopting GenAI at scale. Many GenAI startups (around 80% in H1 2024) report earning less than \$100K in revenue, indicating challenges in scaling monetization beyond initial pilots (Nasscom, India's Generative AI Startup Landscape 2024].

- **Global Competition:** Indian AI startups face fierce competition from well-funded global players, necessitating strong product differentiation and a clear global strategy from inception.

Compute: High cost of compute resources and the absence of scaled domestic hardware Original Equipment Manufacturers (OEMs) or hyperscalers.

Regulations: Uncertainty regarding data privacy, security, copyright infringement, and lack of consensus on global ethical guidelines.

Impact: Concerns regarding disrupted net-zero goals and the need to rebalance growth with environmental, social, and governance (ESG) compliances (Nasscom, June 2023, pp. 6, 30).

Strategic Recommendations for Ecosystem Development

Nasscom's report proposes a multi-stakeholder approach to address these challenges and accelerate India's GenAI growth:

4.2.1 For Startups:

Co-innovation: Collaborate with industry and cloud partners for rapid scaling.

Impact Assessment: Conduct thorough analyses to mitigate potential legal and societal impacts.

Talent Pipeline: Build specialized talent through academic partnerships and internship opportunities (Nasscom, June 2023, pp. 6, 31).

For Investors:

Targeted Investments: Focus on concepts addressing crucial whitespaces in the Indian context, with global market potential.

Responsible AI Integration: Scrutinize and prioritize responsible AI implementation.

Patient Capital: Provide long-term "patient capital" for strategic investments (Nasscom, June 2023, pp. 6, 31).

For Industry:

Awareness Drives: Demystify GenAI for consumers and businesses to foster adoption.

Responsible AI Framework: Champion and evangelize ethical AI development and deployment.

Co-innovation & Open Innovation: Drive collaborative models in applied GenAI.

Talent Upskilling: Partner with industry associations (e.g., Nasscom's FutureSkills Prime platform) to upskill the workforce (Nasscom, June 2023, pp. 6, 31).

For Governments:

Use-Case Identification: Identify high-priority use cases in government departments, focusing on integration with public services and existing Digital Public Infrastructure (DPI) platforms.

Mission-Scale Funding: Provide significant funding for local compute resources, Indian datasets, and innovation in quantum and AI.

Data Privacy Law: Enact comprehensive data privacy legislation.

Global Norms Advocacy: Lobby for international consensus on globally consistent responsible AI guidelines (Nasscom, June 2023, pp. 6, 31).

2.13.3 Public-Private Partnerships in Tier 2/3 Ecosystems

Public-private partnerships (PPPs) have been particularly effective in fostering growth in India's Tier 2 and Tier 3 cities. Initiatives like State Government Innovation Hubs and local startup incubators leverage both public and private sector expertise to support entrepreneurship. These partnerships provide essential resources, networks, and funding that can catalyze growth in underserved regions, ensuring that the startup ecosystem becomes more inclusive and widespread. By targeting smaller cities, these partnerships help decentralize startup activity, offering significant growth potential beyond India's metropolitan hubs (Sindakis et al., 2024).

2.14 Behavioral Economics in Investment Decisions

Behavioral economics explores how psychological, cognitive, emotional, cultural, and social factors influence economic decision-making, often challenging the notion of perfectly rational investors. In the context of Indian domestic startup investors, behavioral economics offers a useful lens to understand deviations from purely rational financial behavior. Domestic investors, ranging from high-net-worth individuals (HNIs) and angel investors to family offices and corporate venture arms, often rely on personal beliefs, experiences, and social networks when making investment decisions (Senadheera et al., 2024). These non-financial drivers are particularly relevant in the fast-paced, high-uncertainty environment of startup investing.

This section analyses the cognitive shortcuts (heuristics) and emotional-social triggers that influence domestic investors' decisions in India. Given the lack of perfect information, rapid

market changes, and high failure rates in startups, these behavioral patterns can significantly shape investment portfolios, risk perceptions, and sectoral preferences.

2.14.1 Heuristics and Biases in Domestic Investment Choices

Heuristics are mental shortcuts or rules of thumb that simplify decision-making under uncertainty. While they can be efficient, they often lead to systematic biases that impact judgment. Indian domestic investors, especially those without formal venture capital training, often fall back on heuristics due to limited data, short decision windows, and information asymmetry in startup ecosystems.

Availability Heuristic: Investors may base decisions on readily available or memorable information, such as recent media coverage, peer successes, or anecdotal success stories. For instance, after media hype around successful Indian unicorns like Paytm or Byju's, investors might disproportionately favour EdTech or FinTech startups, despite their actual risk-return profiles (Peirong et al., 2021).

Representativeness Heuristic: Investors may judge the potential of a new startup by comparing it with a well-known successful one, assuming that similar branding, founders, or pitch styles predict similar success. This often leads to overinvestment in “me-too” startups and underinvestment in less flashy but potentially viable ventures in emerging sectors like AgriTech or AI in healthcare.

Overconfidence Bias: Especially among individual angel investors or successful entrepreneurs turned investors, there is a tendency to overestimate one's ability to select winning startups. This bias often leads to inadequate due diligence, concentration of funds in a few sectors, and early-stage investments based more on intuition than data.

Anchoring Bias: Investors may rely too heavily on initial information—such as the first valuation or pitch deck received—without updating their judgment based on new data. In rapidly evolving tech sectors, this can cause mispricing of startups or reluctance to invest at higher but justified valuations in later rounds (Reddy et al., 2021).

Herding Behavior: In Indian investor networks, where social credibility is important, investors often follow peers or reputed names. If a prominent investor backs a startup, others may quickly follow suit to avoid missing out, even when independent analysis is lacking. This has led to funding bubbles in certain sectors, while more novel or disruptive ideas remain overlooked.

Understanding these heuristics is crucial for improving the quality of decision-making among domestic investors. Training programs, better access to performance analytics, and platforms encouraging independent evaluation could help mitigate such biases.

2.14.2 Emotional and Social Influences on Investor Decisions

Emotions and social context significantly shape investment behavior in India's startup ecosystem, particularly for domestic investors who may not operate with the institutional rigor of foreign venture capitalists. These influences include optimism, fear, trust, social signaling, and regional loyalties.

Emotional Attachment and Optimism Bias: Domestic investors often exhibit strong emotional connections to sectors or founders based on personal experiences. For example, an investor with a background in education may favour EdTech startups out of a sense of mission rather than pure financial calculus. While passion-driven investment can benefit ecosystem building, it may cloud objective assessment of a venture's feasibility or scalability (Yang et al., 2021).

Fear of Missing Out (FOMO): Many investors, especially in angel networks, experience FOMO when peer investors or well-known figures back a new startup. This fear can lead to rushed decisions without thorough analysis. FOMO-driven investments often inflate valuations and contribute to funding hype in certain verticals, only to be followed by market corrections.

Trust and Social Signaling: Indian society places significant value on trust and reputation. Startups with founders from reputed academic institutions (e.g., IITs, IIMs) or with connections to influential networks often receive easier access to domestic funding. Investors frequently rely on informal references, community-based trust, or founder charisma as proxies for due diligence, which may result in underestimation of operational or financial risks (Singh et al., 2021).

Regional and Cultural Loyalty: In some cases, investors show a bias toward startups based in their own city or state, or those led by founders from the same linguistic or cultural background. While this can lead to the growth of local ecosystems (e.g., strong investor interest in Bengaluru, Hyderabad, or Gujarat-based startups), it may reinforce regional disparities and overlook promising startups in underserved Tier 2 and Tier 3 cities.

Emotional Reactions to Losses: Loss aversion—the tendency to prefer avoiding losses over acquiring equivalent gains—is especially strong in Indian cultural contexts where wealth preservation is prioritized. A few bad investment experiences can make domestic investors significantly more risk-averse, particularly in unfamiliar or highly technical domains like AI, DeepTech, or biotech.

Addressing these emotional and social dynamics is essential for fostering a more balanced, evidence-driven domestic investment culture. Formal investor education, standardization of

evaluation practices, and transparent investment platforms can play a critical role in reducing overreliance on intuition and informal networks (Subrahmanya et al., 2021).

The application of behavioral economics provides a richer understanding of how domestic investors operate within the Indian startup landscape. Heuristics, cognitive biases, and emotional-social influences shape not only individual investment decisions but also broader patterns in funding allocation, sector preference, and geographic concentration. By recognizing and addressing these behavioral factors, domestic investors can make more informed decisions, contribute to more equitable startup development, and enhance the overall efficiency of the Indian entrepreneurial ecosystem.

2.15 Impact of Macroeconomic Trends on Domestic Investment

Macroeconomic trends significantly influence investor behavior and the flow of capital into startups. In India, domestic startup investment is sensitive to fluctuations in key indicators such as inflation, interest rates, and GDP growth. While traditional financial markets (e.g., equity and debt) have long been recognized as responsive to macroeconomic variables, the impact on venture capital particularly from domestic sources is a growing area of study.

Indian domestic investors, including family offices, angel investors, high-net-worth individuals (HNIs), and institutional players, often operate with finite capital pools and a preference for financial stability (Reddy et al., 2021). Their risk appetite is influenced not only by sectoral trends but also by the broader economic climate. Unlike foreign venture capitalists, whose risk is spread across geographies, domestic investors are more exposed to local economic fluctuations, regulatory changes, and financial system dynamics.

This section explores the impact of macroeconomic indicators on investment decision-making in the Indian startup ecosystem, and how domestic investors respond during economic downturns and recoveries.

2.15.1 Effects of Inflation, Interest Rates, and GDP Growth

Inflation

Inflation affects both investor sentiment and startup valuation. In high-inflation environments, the real value of future earnings diminishes, making long-term investments like startups appear less attractive. Startups—especially those in early stages—are valued based on their potential to deliver outsized returns in the long run, often without near-term profitability. Inflation, by eroding purchasing power, increases input costs (wages, materials, logistics), thereby shrinking startup margins and delaying break-even timelines (Zhao et al., 2022).

For domestic investors, especially HNIs or family offices with mixed portfolios, high inflation can lead to a shift in capital from high-risk assets (like startups) to inflation-hedged or fixed-income assets (like gold, real estate, or bonds). Furthermore, inflation often leads to a tightening of discretionary consumer spending, affecting startups in B2C segments like D2C retail, e-commerce, and food-tech, where domestic investors are historically active.

Interest Rates

Interest rate movements—dictated by monetary policy—directly impact the opportunity cost of investing in startups. When the Reserve Bank of India (RBI) increases interest rates to combat inflation, safer debt instruments such as fixed deposits and bonds become more attractive, offering higher returns with lower risk. This dynamic diverts domestic capital away from venture investments toward more stable alternatives.

Moreover, higher interest rates make borrowing more expensive, both for startups seeking working capital and for investors leveraging capital. This can dampen growth-stage funding, where capital needs are higher, and lead to more cautious investment strategies. Conversely, during low interest rate periods, there is a surge in startup investments due to abundant liquidity, lower opportunity cost, and a general optimism about achieving higher yields (Singh et al., 2021).

For example, the interest rate cuts during the pandemic (2020–2021) resulted in record domestic capital inflow into tech and healthcare startups. However, the gradual rate hikes in 2022–2023 shifted investor attention back to traditional, income-generating assets.

GDP Growth

GDP growth reflects the overall health of the economy and serves as a critical signal for investor confidence. A growing GDP implies rising incomes, consumer demand, business expansion, and improved corporate earnings—conditions favourable to startup success. In such environments, domestic investors are more willing to deploy capital in high-risk ventures, especially those aligned with rising sectors such as digital finance, SaaS, or healthtech.

India's robust GDP growth from 2014 to 2019, averaging around 7%, created fertile ground for the startup boom. Domestic investor participation increased during this period, encouraged by government programs like Startup India and the expansion of incubators and accelerators. Conversely, GDP slowdowns—such as those experienced during the demonetization phase (2016–17) or the COVID-19 pandemic (2020)—resulted in investment contractions, reduced funding rounds, and greater scrutiny of startup fundamentals (Wayne et al., 2021).

In summary, inflation, interest rates, and GDP growth collectively shape the domestic investment landscape by altering the perceived risk-reward balance. Investors respond to these signals by adjusting their sectoral focus, ticket size, and timing of entry.

2.15.2 Investment Behavior During Economic Downturns and Recoveries

Macroeconomic downturns such as recessions, financial crises, or global disruptions like the COVID-19 pandemic test the resilience of investors and startups alike. During such times, domestic investors typically become risk-averse, favouring short-term returns, capital preservation, and reduced exposure to volatile sectors. However, downturns also offer contrarian opportunities, where forward-looking investors capitalize on lower valuations and less competition.

Downturns: Defensive Investment Behavior

During economic downturns, domestic investors tend to:

Shift to Conservative Sectors: Capital often flows to "safe haven" sectors such as healthcare, EdTech, and SaaS, which are perceived to be more resilient to economic shocks. Consumer-facing luxury or discretionary startups typically see funding dry up (Šterc et al., 2023).

Delay Investment Decisions: Many investors adopt a wait-and-watch approach, slowing down due diligence, reducing the number of deals, and focusing on existing portfolios rather than new investments.

Smaller Ticket Sizes: Even when deals do occur, the investment amounts tend to be smaller. This behavior reflects an increased aversion to risk and lower confidence in the short-term scalability of ventures.

Increased Emphasis on Unit Economics: During downturns, domestic investors pay more attention to revenue models, burn rates, and paths to profitability. The emphasis shifts from “growth at all costs” to “sustainable growth” (Nag et al., 2022).

Follow-On Funding over New Bets: Domestic capital is more likely to be allocated to startups already in the investor’s portfolio, especially those that show traction or are near profitability, rather than to untested new ventures.

Recoveries: Strategic and Opportunistic Investment Behavior

As the economy rebounds, investor confidence returns, and capital starts flowing again—often more aggressively than before the downturn. Recoveries typically feature:

Re-evaluation of Sectors: Sectors that emerged stronger during the downturn (e.g., healthtech post-COVID, digital finance post-demonetization) attract outsized interest. New verticals, like AI in logistics or climate tech, also gain visibility due to accelerated digital and policy shifts.

Higher Risk Appetite: Recoveries often coincide with liquidity boosts (e.g., through government stimulus or low interest rates), encouraging investors to expand their startup portfolios and revisit higher-risk, higher-reward sectors (Shabbir et al., 2021).

Accelerated Investment in Disruptive Innovation: Downturns often force innovation and new business models. During recovery phases, domestic investors show greater willingness to back unconventional or deep-tech startups that align with long-term structural changes.

FOMO and Competitive Rounds: As optimism returns, domestic investors may rush into hot sectors or follow institutional trends, contributing to funding booms and inflated valuations.

The COVID-19 recovery period is a recent example where Indian startups in SaaS, healthtech, and logistics saw record levels of domestic investment. Investors who backed these startups early in the recovery cycle reaped significant returns, validating a counter-cyclical investment approach (Reddy et al., 2021).

Macroeconomic trends profoundly influence the behavior of domestic investors in India's startup ecosystem. Inflation, interest rates, and GDP growth directly impact risk appetite, investment volume, sectoral preferences, and funding stages. Economic downturns typically lead to defensive strategies, conservative sectors, and reduced deal flow, while recoveries ignite renewed interest in disruptive innovation and higher-risk investments. Understanding these macroeconomic linkages is essential not only for policymakers and investors but also for startups seeking to time their funding rounds and align their business strategies with economic realities. Integrating macroeconomic awareness into investment planning can enhance portfolio resilience and support more stable, long-term capital flow into India's innovation economy.

2.16 Gaps in Literature and Research Opportunity

Current literature on startup funding in India tends to focus heavily on metropolitan hubs like Bengaluru, Mumbai, and Delhi, offering limited empirical data on the dynamics of Tier 2/3 cities. While the role of venture capital and foreign investment is well-documented, there is a noticeable lack of research on the unique challenges and opportunities faced by startups outside these urban centers. This gap extends to the domestic investor psyche, where there is insufficient

exploration of the motivations, risk appetites, and expectations of local investors, particularly in contrast to their foreign counterparts.

Moreover, existing studies often fail to capture the influence of cultural, regional, and economic factors on domestic investment behavior, especially in the context of less mature markets. While the emphasis on sectoral funding patterns like FinTech and EdTech is valuable, underfunded sectors such as AgriTech, DeepTech, and ClimateTech are underexplored in relation to domestic investment preferences.

There is a clear need for a study that bridges these gaps, particularly focusing on domestic investor perspectives and startup funding dynamics in Tier 2/3 cities. By addressing these areas, the study can provide a more holistic understanding of the Indian startup ecosystem, offer insights into emerging trends in underfunded sectors, and inform policies aimed at fostering inclusive growth in the broader national startup landscape.

2.17 Conclusion

The literature reveals a maturing yet fragmented understanding of domestic startup investment in India. Research emphasizes a strong investor preference for scalable, lower-risk sectors such as FinTech, EdTech, and SaaS, predominantly centered in Tier 1 cities and early funding stages. Underexplored domains—like DeepTech, ClimateTech, and AgriTech—continue to face challenges due to perceived high risk, longer time-to-market, and limited investor familiarity. While AI adoption has begun to enhance investor confidence, domestic funding remains cautious, shaped by limited technical expertise, short-term ROI expectations, and a general preference for proven business models.

Government initiatives have fostered a more favourable investment climate, yet the effectiveness of policies in Tier 2/3 cities and in nurturing long-term, AI-driven innovation is not well-documented. Moreover, significant gaps remain in understanding the domestic investor psyche, especially in non-metro regions.

Addressing these shortcomings will require targeted policy interventions, structured investor education, and financing models that align with the longer gestation periods typical of innovation-led startups. This study aims to bridge these gaps by offering a data-driven analysis of domestic investment patterns across industries, funding stages, and geographic tiers. In doing so, it will contribute actionable insights to strengthen and diversify India's startup ecosystem, making it more inclusive, resilient, and innovation-friendly.

CHAPTER III: METHODOLOGY

3.1 Research Methodology

The research methodology for this study combines both quantitative and qualitative approaches to analyze domestic investment patterns in India's Emerging-Tech and GEN-AI startup ecosystem (Chali et al., 2022). Quantitative data will be collected from sources like Crunchbase, Tracxn, and government reports, focusing on investment trends across sectors, stages, and regions over the past decade. This will be complemented by qualitative insights gathered through interviews and surveys with domestic investors and startup founders. The study will explore funding stages, regional investment trends, sector-wise preferences, and the impact of AI adoption on investment growth to provide a comprehensive understanding of domestic investment dynamics.

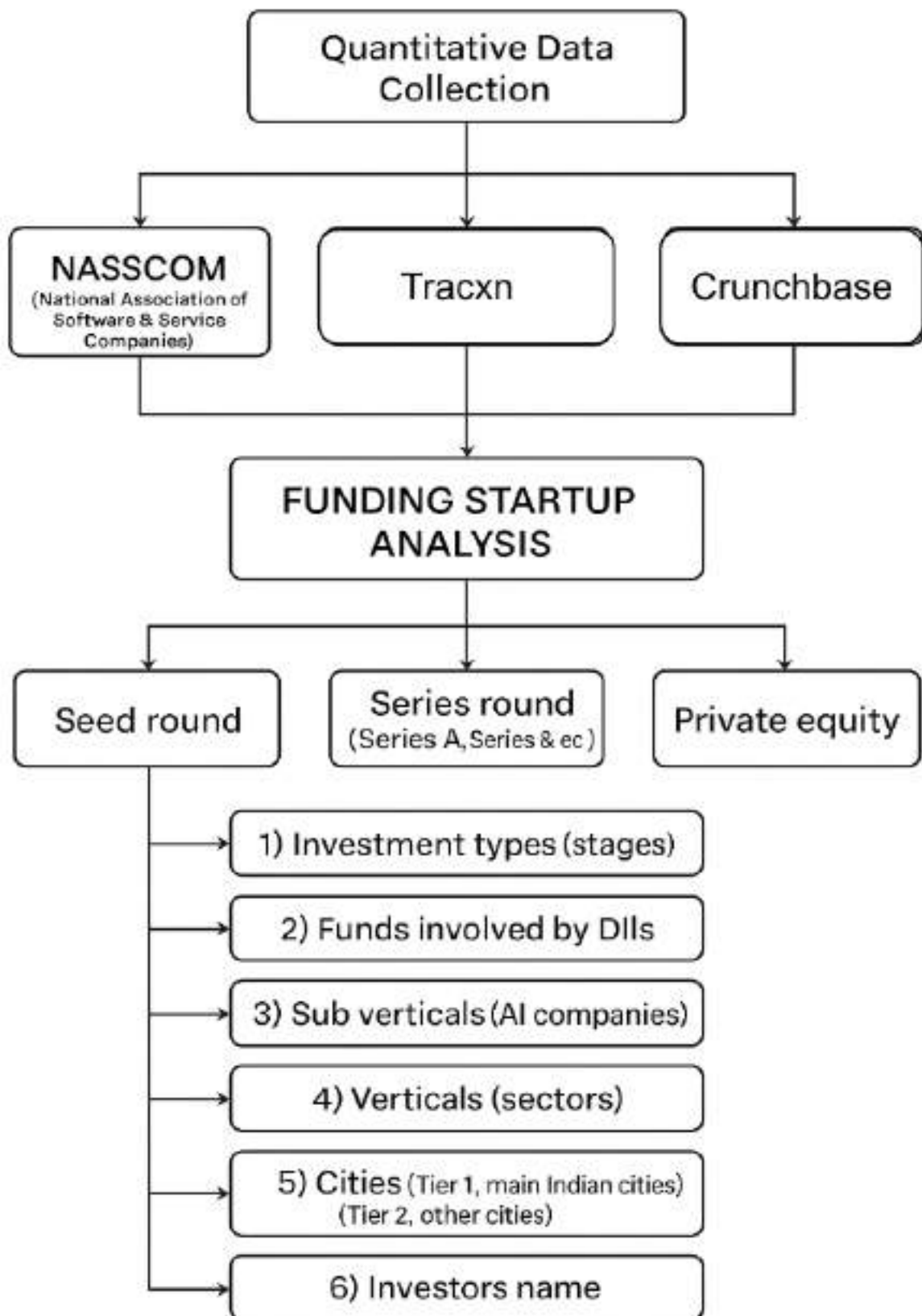


Figure 3.1: Research Methodology

3.2 Data Collection

Quantitative Data: The research will utilize financial datasets from sources such as Crunchbase, Tracxn, startup databases, and government reports spanning the past ten years to analyze domestic investment patterns (Chali et al., 2022). By categorizing investment trends based on sector, funding stage, and city tiers, the study will identify key patterns in how and where domestic investors allocate capital. Additionally, a critical focus will be on assessing AI adoption levels across industries and examining its correlation with investment growth. This will help determine whether increased AI integration influences funding decisions, attracts more investors, and contributes to long-term startup success.

Tracxn:

Tracxn is a private market research platform that specializes in tracking startups, emerging technology sectors, and private companies globally. It uses a hybrid approach of machine learning and human analysts to curate data. Excellent for **in-depth, niche sector analysis** (e.g., specific segments of FinTech, AI, etc.). Provides data points on funding rounds, investors, company details, business models, and competitor mapping, often with a good focus on emerging markets and early-stage ventures. It is useful for building a comprehensive landscape view of a specific industry.

Crunchbase:

Crunchbase is a leading platform for business information on public and private companies, focusing heavily on funding, acquisitions, and the people behind the companies. It gathers data

from various sources, including user contributions, partnerships, and AI. Provides a **broad, quantitative dataset** of company financials, founding dates, investment history (including Seed, VC, and PE rounds), acquisitions, and key personnel. It is widely used by academic researchers for studies on startup success, investment patterns, and the characteristics of founders and investors across the global ecosystem.

NASSCOM (National Association of Software and Service Companies):

NASSCOM is the premier trade body and chamber of commerce for the tech industry in India. While not a raw database like the other two, its primary value for a thesis is through its **reports, white papers, and industry statistics**. The most valuable source for **macro-level, sector-specific insights and trends focused on the Indian technology, IT, and startup ecosystem**. It provides official industry reports on topics like the Indian startup landscape, AI adoption, IT services growth, and the size and contribution of various tech segments (e.g., Generative AI, GCCs). This data is often used for contextualizing findings or drawing comparisons with global trends.

Qualitative Data: Interviews & Likert Surveys with domestic investors and startup founders to capture insights into funding motivations, challenges, and risk perceptions (Lindner et al., 2021). Likert-scale surveys provide real-world perceptions of industry professionals, bridging qualitative perceptions with Quantitative Insights. Likert-scale responses from 50 industry experts on operational challenges and financial models. Capture industry professional's perceptions on operational challenges, Trends & Strategic Shifts, and financial strategies, focusing on actionable insights. **Survey Design:** Structured Likert-scale questionnaire (1–5

scale: Strongly Disagree to Strongly Agree) addressing key research questions and subcategories.

Sample Population: DII industry professionals with expertise in DII (investors, fund manager, angel investors, market critique & SME's, etc). **Data Processing:** Descriptive statistics (mean, standard deviation) to identify consensus and key insights. **Output:** Trends in operational bottlenecks, financial strategy adoption, and regulatory compliance challenges. While the sample size of 50 may appear small, the survey respondents were industry professionals with deep expertise. The combination of numerical Likert-scale analysis and key statistical measures provides robust insights, particularly given the homogeneity of responses (low standard deviations in most items). These findings form a solid basis for actionable recommendations.

3.3 Comparative Analysis

Quantitative:

Funding Stage Analysis: The study will examine at which stages domestic investors typically enter the market. By identifying the funding stages, the research will provide insights into domestic investors' risk tolerance, their preferences, and investment strategies. This analysis will help understand how domestic investors' involvement varies at different stages of a startup's lifecycle and highlight any gaps in funding that could limit a startup's growth or innovation.

Regional Investment Trends: Understanding the geographic distribution of domestic investments is essential for this research. The study will compare investment trends across Tier 1 and Tier 2 cities, which have varying levels of startup activity and infrastructure. Tier 1 cities, like Mumbai and Delhi, tend to attract more funding due to established startup ecosystems, while Tier 2 cities may face challenges related to infrastructure and investor presence. This regional analysis will identify disparities in funding and provide insights on how investment can be more evenly distributed to stimulate growth in emerging areas.

Sector-Wise Funding Patterns: This aspect of the study will focus on the differences in investment preferences across various sectors, such as finance, education, agriculture, media, and healthcare. By analyzing funding amounts and trends across industries, the research will assess which sectors are receiving the most attention from domestic investors and which sectors are potentially underfunded. This analysis will help reveal any sector-specific gaps or opportunities and provide recommendations for investors seeking to diversify their portfolios.

AI Adoption & Investment Growth: The study will also investigate how the integration of artificial intelligence (AI) in various sectors influences investment patterns. AI adoption has the potential to increase startup scalability, improve efficiency, and drive innovation, which can attract more investors. The research will analyze how AI adoption affects funding amounts, investor interest, and confidence, helping to determine whether AI-driven startups receive more investments compared to those without AI integration. By assessing the correlation between AI usage and investment growth, the study will provide valuable insights into how AI is shaping the startup ecosystem and driving funding trends.

Qualitative:

The survey design employs extensive comparative analysis to gauge preferences and structural challenges within the GenAI ecosystem, providing nuanced insights beyond simple preference polling. A foundational comparison is established by assessing the Return on Investment (ROI) potential of GenAI versus traditional tech sectors, where the high average score (4.2) confirms that AI is the most favored vertical for investment. A key contrast is drawn in investment strategy, comparing the comfort level of funding application-focused Platform-as-a-Service (PaaS) solutions (AVG 4.1, 4.5) against foundational Large Language Models (LLMs). The

higher scores for PaaS support the finding that domestic investors are risk-averse and prioritize ventures offering shorter return cycles over foundational models, which demand heavy R&D. For founders, the analysis compares strategies for building a competitive moat, confirming that verticalization (domain-specific AI agents) is strongly validated (AVG 4.9) as the superior path to achieving a defensible position compared to general-purpose tools. Government support priorities are compared, with founders overwhelmingly prioritizing access to subsidized high-performance computing infrastructure (AVG 4.8) over general training or incubator support, recognizing compute as the critical high-cost resource. An implicit comparison is made between deep-tech R&D needs and the availability of capital, resulting in strong disagreement (AVG 1.5) that Indian investors are providing the required long-term, 'patient capital'. Furthermore, the analysis compares investment preferences geographically, confirming that investors overwhelmingly favor established Tier 1 cities (AVG 4.5) due to their infrastructure, talent concentration, and proven market maturity when compared to promising startups in Tier 2/3 locations. Commercial readiness is comparatively assessed against the benchmark of "full commercialization," yielding a low average score (1.7) that confirms approximately $\mathbf{80\%}$ of startups are still in the Proof of Concept or prototyping stage

3.4 Data Approach

Quantitative:

This study employs a dual-model approach to forecast and analyze investment trends across regions (tiers), industries (e.g., GEN AI, Others), and funding stages (Seed, Private Equity, Late stage). The workflow integrates both ARIMA & Prophet supported by a data-driven interpretation of historical and projected investment behaviour through visual analytics (Senadheera et al., 2024).

Qualitative:

The data approach utilizes a quantitative survey methodology relying entirely on a structured Likert Analysis Questions framework to measure perceptions, challenges, and preferences within the GenAI investment landscape. The methodology ensures statistical consistency by maintaining a uniform sample size of 50 respondents ($N=50$) across all 20 questions (Q1 through Q20). The primary goal of the approach is to quantify subjective assessments, such as investor risk appetite, the severity of the talent gap, and the strategic priority of verticalization. The central metric calculated for every question is the Average (AVG) score, which statistically measures the consensus level of agreement or disagreement among the participants. Complementary to the average, the Standard Deviation (STD) is calculated to measure the data's dispersion or volatility, indicating the reliability and homogeneity of the responses (e.g., STD 0.2 for Q5 indicating near-perfect consensus, vs. STD 0.98 for Q1 indicating greater variation). The approach systematically links each question to a specific Focus Area (e.g., 'Compute Costs,' 'Knowledge Asymmetry,' 'Talent Gap') to categorize and analyze responses coherently. The output of this data approach is not just the raw score, but the "Explanation of the Score Supporting the Finding," which directly connects the calculated numerical data (AVG and STD) to a contextualized conclusion about market trends or structural challenges. This methodology allows for clear interpretation, where scores near 5 indicate strong agreement (e.g., Q8, AVG 4.8) and scores near 1 indicate strong disagreement (e.g., Q4, AVG 1.7).

Data Preparation and Segmentation

Quantitative:

The dataset utilized in this study encompasses historical investment activity segmented across several dimensions. These include Tier, representing the geographic classification into Tier 1 and Tier 2 regions; Industry, differentiating between sectors such as Generative Artificial Intelligence (GEN AI) and Others; and Investment Stage, which distinguishes between Seed and Private Equity funding. The data is structured as a time series spanning regular intervals—either monthly or quarterly—allowing for detailed temporal analysis and forecasting.

Qualitative:

Data preparation is intrinsically defined by the structured organization of the survey, ensuring that raw responses are ready for standardized statistical processing. The most fundamental preparation involves establishing the uniform sample size ($N=50$) across all analysis points, guaranteeing data integrity for subsequent statistical comparisons. Raw qualitative Likert responses must be prepared by assigning standardized numerical values (e.g., 1 to 5) to enable the calculation of the Average and Standard Deviation metrics. The data is segmented into three primary analytical sections: Section A (General Sectoral Preferences/Product Focus), Section B (Challenges and Risk Perception, including Investor Behavior), and Section C (Geographical and Stage Disparities). Within these main sections, further segmentation occurs based on detailed Focus Areas, which categorize questions thematically, such as 'Commercial Readiness' (Q4), 'Infrastructure/Compute Challenge' (Q12), or 'GTM / Market Hesitation' (Q16). This systematic segmentation allows analysts to isolate findings related to distinct facets of the ecosystem, separating operational hurdles (Q15) from investor mindset (Q9) or regulatory constraints (Q17). Preparation also included the crucial step of recording the Minimum (Min) and Maximum (Max) observed scores for each question, defining the range of responses captured within the 50-person

sample. This level of preparation and segmentation ensures the resulting analytical outputs can address complex, multi-faceted issues accurately, providing targeted conclusions for stakeholders

Preprocessing Steps

Quantitative:

As part of the data preparation phase, rigorous preprocessing steps were implemented to ensure that the time series data was suitable for accurate and reliable forecasting. First, missing value imputation was conducted using interpolation techniques, which are particularly effective for time-indexed data. This approach preserved the temporal continuity of the dataset while minimizing distortion in the trends and patterns that are critical for time series modeling. Ensuring data completeness was essential to avoid biases in the model fitting and to maintain consistency in the training process.

Next, a stationarity check was performed to assess whether the statistical properties of the series—such as mean and variance—remained constant over time, a prerequisite for many time series models, especially ARIMA. The Augmented Dickey-Fuller (ADF) test was used as the primary statistical tool for this purpose. Where non-stationarity was detected, differencing techniques were applied to the series to remove trends and stabilize the mean, thereby making the data more amenable to modeling using ARIMA (Ospina et al., 2023).

Lastly, exploratory data analysis (EDA) was carried out to gain preliminary insights into the structural components of the data. This included visual inspection through line plots and decomposition of the series into its trend, seasonal, and irregular components. Decomposition helped isolate cyclical behaviours and fluctuations due to irregular events, providing a clearer understanding of underlying dynamics. These insights were not only instrumental in guiding

model selection but also in fine-tuning model parameters to capture the temporal characteristics of each investment segment accurately.

Qualitative:

Preprocessing involves the initial statistical operations performed on the prepared numerical data before generating the final market interpretations. After the numerical assignment of Likert responses, the core preprocessing step is the calculation of the Average (AVG) score for each question (Q1 through Q20), which determines the statistical measure of central tendency for the $N=50$ responses. For example, determining the AVG of 4.8 for compute costs (Q13) requires summing all responses and dividing by the sample size (50). Concurrently, the Standard Deviation (STD) is calculated, which mathematically measures the degree of dispersion around the average, serving as an indicator of the reliability or consensus (e.g., a low STD of 0.2 for Q5 indicates high consensus, while a higher STD of 0.84 for Q10 indicates greater variation). Preprocessing also includes the verification and recording of the Min and Max observed scores for each question, which confirms the boundary conditions of the data set. These computational steps effectively reduce 50 individual data points per question into a concise set of statistical metrics (AVG, STD, Min, Max), providing the quantifiable evidence necessary to support the final findings. The successful execution of these preprocessing steps ensures that the resultant scores are numerically sound and methodologically consistent across the entire survey, enabling robust conclusions regarding topics like knowledge asymmetry (Q10, AVG 2.2) and short-term focus (Q9, AVG 4.4).

3.5 Forecasting Models

Auto Regressive Integrated Moving Average (ARIMA) model

The Auto Regressive Integrated Moving Average (ARIMA) model was employed for forecasting investment segments that displayed stable or linear trends with minimal seasonal fluctuations. ARIMA is well-suited for such time series due to its capacity to model autocorrelations and underlying temporal patterns. Structurally, the model integrates three core components: Autoregression (AR), which captures the influence of past values on current observations; Integration (I), which involves differencing the data to remove trends and ensure stationarity; and Moving Average (MA), which models the impact of past forecast errors on current outcomes. Together, these components allow ARIMA to effectively model the persistence and inertia often found in financial time series (Dong et al., 2024).

To identify the optimal configuration of parameters (p , d , q), the study employed the `'auto_arma'` function, which systematically searches through possible combinations and selects the best-fitting model based on statistical criteria such as the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC). These criteria help balance model complexity with goodness of fit, avoiding overfitting while capturing key temporal dynamics. Once a candidate model was selected, diagnostic checks were performed. Autocorrelation Function (ACF) and Partial Autocorrelation Function (PACF) plots were examined to assess residual independence, and statistical tests ensured that the residuals approximated white noise—an indication of model adequacy.

ARIMA was primarily applied to segments characterized by consistent and predictable investment patterns. A prominent example includes forecasting for Tier 1 regions within the

“Others” industry category and Private Equity investment stage, which exhibited relatively smooth, trend-driven behavior with minimal structural breaks or seasonality(Chodakowska et al., 2023). The use of ARIMA in these contexts enabled precise, short- to medium-term forecasting, supporting insights into ongoing market behavior and aiding strategic investment planning.

Prophet model

The Prophet model, developed by Facebook, was employed to forecast investment segments characterized by irregular seasonality, abrupt structural shifts, and heightened volatility—traits particularly common in early-stage investments such as Seed funding. Unlike traditional models, Prophet is designed to handle time series data that is messy, incomplete, or exhibits complex behavior due to external shocks (Zhao et al., 2022). This made it especially well-suited for segments affected by macroeconomic disruptions, such as the post-2022 investment downturn observed across several categories.

Prophet models time series using an additive framework composed of four main components: Trend ($g(t)$), Seasonality ($s(t)$), Holiday Effects ($h(t)$), and an Error Term (ϵ_0). The trend component was captured using piecewise linear regression, allowing the model to account for growth deceleration or acceleration across distinct intervals. Seasonality was modelled using Fourier series, which enabled flexible representation of cyclical investment behaviours at both annual and sub-annual levels. The holiday component was enriched with domain-specific events, such as notable policy changes or market corrections—most notably, the sharp downturn in early 2023—providing contextual grounding for sudden changes in investment patterns. The error term captured random noise, assumed to follow a white noise distribution.

Customization was central to improving model performance. Changepoint sensitivity was increased for Seed investment segments to better detect and adapt to sudden shifts in trend, ensuring the model could respond dynamically to early-stage market turbulence. In addition, known macroeconomic events and sector-specific disruptions were embedded within the holiday effect structure, offering improved forecasting accuracy for volatile segments (Sardar et al., 2023). Prophet's flexibility and robustness made it a strong complement to ARIMA, particularly in capturing the non-linear, event-driven behaviours prevalent in dynamic investment landscapes.

3.6 Forecast Generation and Evaluation

Both the ARIMA and Prophet models were employed to generate forward-looking investment forecasts covering the period from 2022 through 2029. To assess the accuracy and robustness of each model, multiple standard forecast evaluation metrics were applied, including Mean Absolute Error (MAE), Root Mean Squared Error (RMSE), and Mean Absolute Percentage Error (MAPE). These metrics provided quantitative insight into the models' predictive performance by measuring average deviation, error magnitude, and relative accuracy across different investment segments. In addition to numerical validation, forecasts were visualized through intuitive plots that highlighted actual vs. predicted values, along with confidence intervals to indicate the uncertainty bounds of the projections. These visual tools played a crucial role in identifying inflection points, trend shifts, and volatility zones, thus enabling stakeholders to interpret and act on the results with greater clarity and confidence.

3.7 Key Analytical Outputs

The visualization-driven analysis provided key insights into historical and projected investment dynamics across regions, industries, and stages. The Investment Over Time charts consistently highlighted the dominance of Private Equity funding across both Tier 1 and Tier 2 regions,

regardless of whether the sector was AI or Others. This suggests a strong investor preference for later-stage, lower-risk opportunities in both mature and emerging geographies. In contrast, Seed rounds exhibited sharp early declines followed by a plateau, underscoring the high volatility and risk associated with early-stage funding, particularly in uncertain market environments. The Year-on-Year Change plots further emphasized this volatility, with 2023 marked by a noticeable correction, especially in Tier 2 regions, which displayed greater fluctuations likely due to smaller market sizes or concentrated funding patterns. The Average Investment Analysis reinforced the strategic importance of AI, with the combination of Tier 1 and AI receiving the highest average funding levels, highlighting investor confidence in scalable, innovation-driven ecosystems. Finally, the Forecast Summary Table validated visual trends by quantifying expected investment flows through 2029, revealing flat or stabilizing trends post-2023, indicative of a maturing market landscape and a cautious investment climate.

3.8 Strategic Insights Integration

The interpretation of forecasts and visualizations yielded several strategic conclusions regarding investment behavior and future trajectories. Private Equity continues to dominate as the preferred investment vehicle, particularly within both Tier 1 and Tier 2 regions. This trend indicates investor confidence in the scalability and lower risk associated with more mature ventures, especially in sectors like Artificial Intelligence (AI). In parallel, although Seed Investments exhibit high levels of volatility, particularly during macroeconomic disruptions such as those seen in 2023, they remain a vital component of the innovation pipeline. This is especially true in the AI sector, where early-stage funding plays a pivotal role in nurturing disruptive technologies and emerging startups.

The data also underscores a persistent preference for the AI industry over non-AI ("Others") sectors, both in terms of total and average investment. This reflects sustained market confidence in AI's long-term value proposition and its perceived potential to deliver transformative outcomes across industries. Perhaps most notably, the forecasted trends beyond 2023 suggest a gradual stabilization and possible saturation of funding levels, particularly in mature regions and late-stage investment categories. This levelling-off may signal a strategic inflection point, encouraging both investors and policymakers to reassess funding allocations, diversify investment strategies, and support emerging sectors or underserved regions. As such, the study not only informs capital allocation decisions but also highlights where targeted policy or institutional support may stimulate future growth.

3.9 Tools and Technical Stack

The project was implemented using a Python-based analytics stack within a Jupyter Notebook environment, ensuring flexibility for iterative development and visualization. Key libraries used included `pmdarima` and `statsmodels` for ARIMA modeling, and `fbprophet` for time series forecasting with complex seasonality and event-based components. Data analysis and visual exploration were supported by `matplotlib`, `seaborn`, and `plotly`, enabling both static and interactive visualizations. To enhance interpretability and stakeholder engagement, an interactive HTML dashboard was developed using `plotly` and `dash`, providing dynamic, user-friendly access to key investment trends, forecasts, and comparative insights across segments. This technical setup allowed for robust modeling and intuitive presentation of results.

This methodology ensured a robust, multi-dimensional analysis of investment dynamics across time, geography, and industry, supporting both quantitative rigor and qualitative interpretation for strategy development.

3.10 Relevance of Literature to Research Framework

The research framework adopted in this study—combining quantitative analysis, qualitative insights, and comparative investigation across funding stages, geography, sectors, and AI adoption—is well-grounded in existing literature that explores similar themes within the startup and investment ecosystems. These references collectively validate the methodological choices made and provide strong theoretical and empirical underpinnings for analyzing domestic investor behavior in Indian startups.

(Saroy et al., 2023), in his work “What Drives Startup Fundraising in India” (RBI Bulletin), employs a macroeconomic lens to analyze how startups raise funds across different stages and sectors. The study uses extensive financial data and reinforces the importance of examining funding patterns not only in terms of volume but also timing and sectoral distribution (Saroy et al., 2023). This directly supports the funding stage analysis and sector-wise investment trends in the current research.

(David et al., 2021), in “The Startup Environment and Funding Activity in India”, provides a comprehensive analysis of how domestic and international investors interact with Indian startups. His use of a comparative framework across regions and sectors, supplemented with a mixed-methods approach involving both data and qualitative feedback, aligns with this study’s own approach. David’s regional comparisons lend credence to the research's focus on geographic investment disparities, especially between Tier 1 and Tier 2 cities (David et al., 2021).

The study by (Hyun and Lee et al., 2024) in the journal *Systems* is particularly valuable for the research’s focus on AI. Their examination of AI startup investments in Korea and Japan through the lens of venture capital syndication shows how AI adoption influences investor

decision-making, confidence, and risk appetite. This supports the AI dimension of the current study, where the correlation between AI integration and funding growth is central to understanding the evolving behavior of domestic investors in India's tech sectors(Hyun 2024).

Masłoń-Oracz's work on the "Startup Ecosystem in Emerging Economies", using India as a case study, further strengthens the relevance of exploring regional dynamics and infrastructure barriers in Tier 2 cities. His analysis of institutional support, funding availability, and ecosystem maturity across urban and semi-urban centers validates the comparative geographic lens of this research and justifies the focus on bridging regional investment gaps(Masłoń-Oracz n.d. et al., 2019).

Lastly, (Aßmann et al., 2024), though focused on fintech and Generation Z, provides methodological inspiration for the qualitative component of this study. Through structured interviews and thematic analysis, Aßmann's research highlights how investor and user behavior is shaped by local context, technology perceptions, and financial trends. This aligns with the current study's inclusion of interviews and surveys to understand domestic investors' motivations, challenges, and risk perception. The use of qualitative methods ensures that the numbers in investment datasets are enriched with contextual insights, offering a deeper look into investor psychology and decision-making patterns (Aßmann et al., 2024).

Together, these studies establish a clear academic precedent for using a multi-dimensional, data-driven, and comparative research design. They confirm the value of analyzing funding behavior through multiple lenses—stage, geography, sector, and technology adoption—to build a more accurate picture of how domestic investors operate within the Indian startup landscape. This holistic approach ensures that the research outcomes are not only descriptive but also

prescriptive, capable of informing future policy frameworks and investment strategies that promote sustainable startup growth, especially in AI and Emerging-Tech sectors.

3.11 Expected Outcomes

This research aims to generate actionable insights into the behavior of domestic investors within India's rapidly evolving startup ecosystem, particularly in the Emerging-Tech and AI sectors. The expected outcomes are designed to address key gaps in understanding and offer practical recommendations for stakeholders, including investors, entrepreneurs, and policymakers.

1. Identification of Investment Entry Points

The study will offer a clear understanding of the specific stages in the startup lifecycle—such as seed, early, growth, and late stages—where domestic investors are most likely to enter. This will help map out typical investment behaviours and reveal how investor risk appetite varies over time. By doing so, the research will assist startups in targeting the right investors based on their developmental phase, while also guiding domestic investors on where their support can be most impactful.

2. Sector-Wise Funding Insights

A comprehensive analysis of sector-wise funding patterns will uncover which industries receive the highest levels of domestic investment. Sectors such as finance, AI, healthcare, agriculture, education, and environmental technology will be examined to identify both high-interest areas and those that remain underfunded. Special attention will be given to AI-integrated sectors, including AI-driven pharmaceuticals and agritech, where technological innovation holds transformative potential but may be constrained by limited domestic funding.

3. Geographical Disparity Analysis

The study will delve into the geographic distribution of domestic investments across Tier 1 and Tier 2 cities. While Tier 1 cities such as Bengaluru, Delhi, and Mumbai currently attract the lion's share of funding, emerging Tier 2 cities are often overlooked despite increasing entrepreneurial activity. The research will assess these disparities and recommend strategies to bridge the urban-rural funding divide. These insights can be instrumental in fostering a more inclusive and evenly distributed startup ecosystem across India.

4. Influence of AI Adoption on Investment Trends

The integration of artificial intelligence is expected to play a significant role in attracting domestic investment. The research will evaluate how AI-enabled startups influence investor interest by improving efficiency, scalability, and profitability. It will also identify sectors where AI integration significantly boosts investor confidence. These findings will help startups understand how to leverage AI to enhance their appeal to investors, while guiding investment firms toward high-growth opportunities.

5. Patterns in Domestic Investor Behavior

Through qualitative interviews and surveys, the research will provide a nuanced understanding of what drives domestic investor decisions. Factors such as risk tolerance, sectoral preferences, regional focus, and expectations for return on investment will be analysed. This will result in a behavioral profile of the Indian domestic investor, helping entrepreneurs tailor their pitches and funding strategies accordingly.

6. Correlation Between Funding and Startup Success

The study will assess the link between the level and timing of domestic investment and the long-term success of startups. It will explore how early and sustained funding contributes to growth, scalability, and innovation, particularly in AI-centric businesses. This outcome is crucial for identifying best practices and funding models that contribute to sustainable success in India's competitive startup landscape.

7. Policy Recommendations and Strategic Frameworks

Based on the insights gathered, the research will propose specific policy recommendations and strategic frameworks. These will include incentives for long-term domestic investment, strategies to promote AI adoption in lagging sectors, and funding models tailored to regional and industry-specific needs. Such measures can play a pivotal role in strengthening the foundation of India's startup ecosystem.

8. Enhanced Understanding of Emerging Ecosystems

Finally, the study will bring attention to promising but underserved regions and sectors. By identifying latent opportunities outside major hubs and spotlighting innovation in non-traditional industries, this outcome will guide both investors and government agencies in targeting their resources to unlock new avenues of economic and technological growth.

3.12 Conclusion

This research will offer a comprehensive analysis of domestic investment behavior in Indian startups, with a specific focus on funding stages, regional investment distribution, sectoral preferences, and the influence of AI adoption. By examining how and when domestic investors engage with startups across Tier 1 and Tier 2 cities, the study will reveal patterns in funding allocation, risk appetite, and industry focus. The integration of AI as a key variable will help

assess its role in enhancing investor confidence and shaping funding flows, particularly in technology-driven sectors like fintech, healthcare, and agriculture. Insights drawn from quantitative data and qualitative feedback will aid policymakers in identifying regional disparities and sectoral funding gaps. The findings will also assist investors in making informed decisions and guide startup founders in aligning their business strategies with market trends. Ultimately, the research aims to propose actionable strategies and policy recommendations that promote balanced domestic investment, encourage AI integration in underfunded sectors, and support sustainable innovation. In doing so, this study will contribute to building a more resilient, inclusive, and forward-looking startup ecosystem in India, aligned with the evolving dynamics of technology and entrepreneurship.

CHAPTER IV: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This analysis provides a comprehensive examination of investment trends in India across various dimensions—geography (Tier 1 and Tier 2 cities), industry sectors (AI and Others), investor types (FIIs and DIIs), and investment stages (Seed and Private Equity). Leveraging interactive dashboards and time series forecasting techniques, the study captures both historical patterns and future projections, offering valuable insights into how capital flows are evolving in the Indian market.

Key visualizations explore year-over-year investment volumes, industry-specific funding trends, investor behavior, and geographic disparities. To deepen foresight, advanced forecasting models such as ARIMA were used to project investment activity through 2029. These models help identify stabilizing trends, growth saturation points, and potential areas of future volatility—particularly in early-stage sectors like AI startups.

The goal of this analysis is to equip stakeholders—including investors, policymakers, and strategic planners—with data-driven insights to inform smarter capital allocation, regional development planning, and innovation policy. By combining historical trends with predictive modeling, the report highlights emerging patterns, identifies funding asymmetries, and anticipates inflection points that will shape the investment landscape in the coming years.

4.2 Total Investment by year

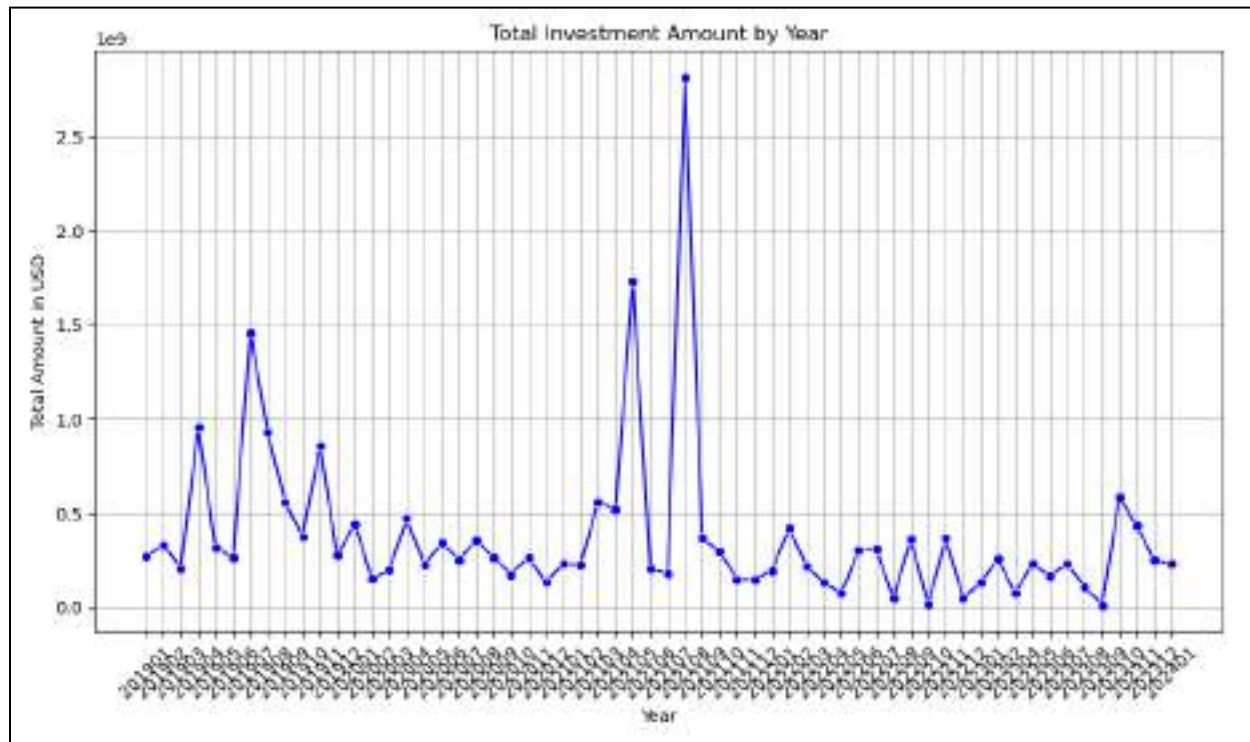


Figure 4.1: Total Investment by year

This figure presents a comprehensive view of the total investment volumes recorded annually, offering a clear picture of how capital inflow has evolved over time. From the earlier years up to 2022, there is a visible upward trajectory, signaling a period of robust investor confidence, heightened interest in emerging markets, and aggressive capital deployment across sectors and geographies. This growth reflects the momentum generated by digital transformation, global capital accessibility, and the maturing Indian startup ecosystem. However, starting in 2023, the trend begins to flatten or slightly decline, marking a notable shift in investor sentiment.

This inflection point is likely influenced by a range of macroeconomic pressures, including global inflation, rising interest rates, tighter liquidity conditions, and ongoing geopolitical tensions. Additionally, the aftereffects of the COVID-19 pandemic have triggered a more

risk-averse climate, causing investors to re-evaluate valuations, defer decisions, or prioritize profitability over growth. The figure suggests that unless new growth catalysts—such as sectoral breakthroughs, policy stimulus, or international investment waves—emerge, future investments may continue at more cautious, stabilized levels. Overall, the trend depicted in this figure offers valuable foresight into how the investment environment is transitioning from high growth to measured consolidation.

4.3 Investment Amount by Industry Vertical

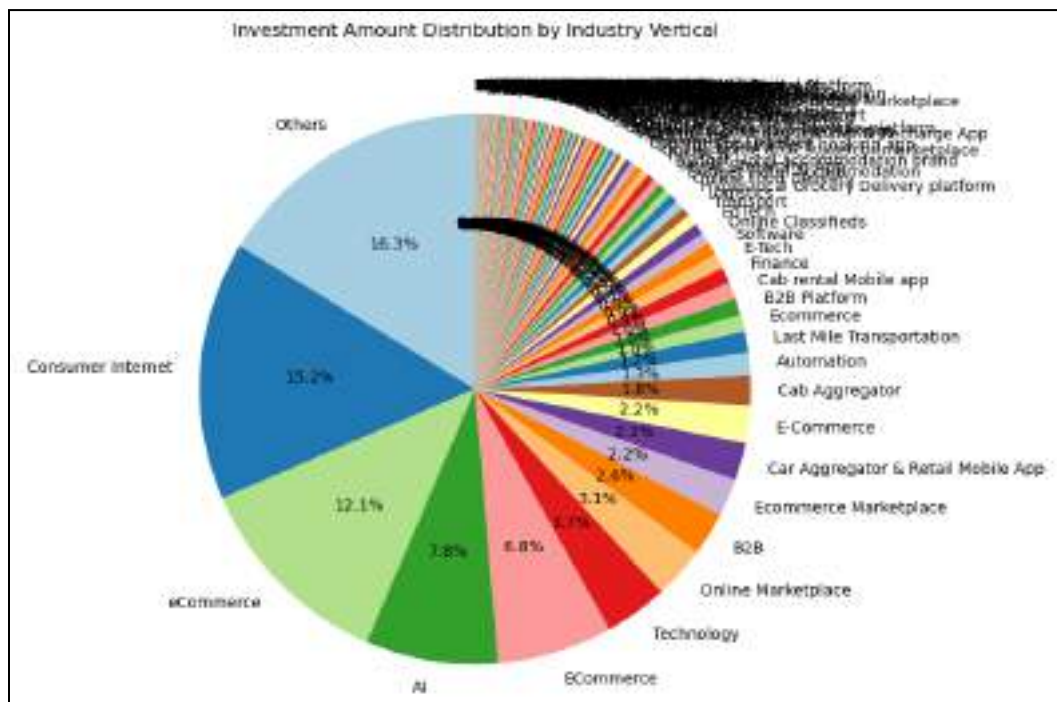


Figure 4.2: Investment amount by industry vertical

This figure offers a comparative overview of investment distribution across key industry verticals, with particular focus on Artificial Intelligence (AI) versus other sectors grouped under “Others.” The data reveals a pronounced investor preference for AI, demonstrated by

significantly higher funding volumes allocated to AI-related ventures across the observed timeline. This disproportionate allocation highlights AI's current status as a strategic, high-growth sector, widely regarded as a cornerstone of future economic transformation. Its broad applications across industries—ranging from healthcare and finance to logistics and education—position AI as a prime target for both early-stage venture capital and late-stage private equity.

The consistently higher investment in AI suggests a sustained belief in its disruptive potential, scalability, and long-term return on investment. Moreover, AI aligns closely with national innovation agendas, enterprise digitalization efforts, and evolving consumer behavior—further reinforcing investor interest. The trend also reflects a global pattern where AI-related startups and scale-ups have become leading destinations for institutional and cross-border capital.

In contrast, the “Others” category, encompassing more traditional or non-tech sectors, sees modestly lower average investments, indicating a more selective or risk-sensitive funding approach. While these sectors may still receive support, they lack the exponential growth promise of AI, and often require longer gestation periods or face structural challenges.

Overall, this figure emphasizes a critical insight: technology-driven innovation—especially in AI—is at the forefront of capital allocation strategies, and this focus is unlikely to wane in the near future. Investors appear increasingly inclined to back sectors that not only offer strong commercial viability but also align with transformative technological trends, thereby shaping the direction of economic and industrial development in the coming decade.

4.4 Investment Amount by Investor Type

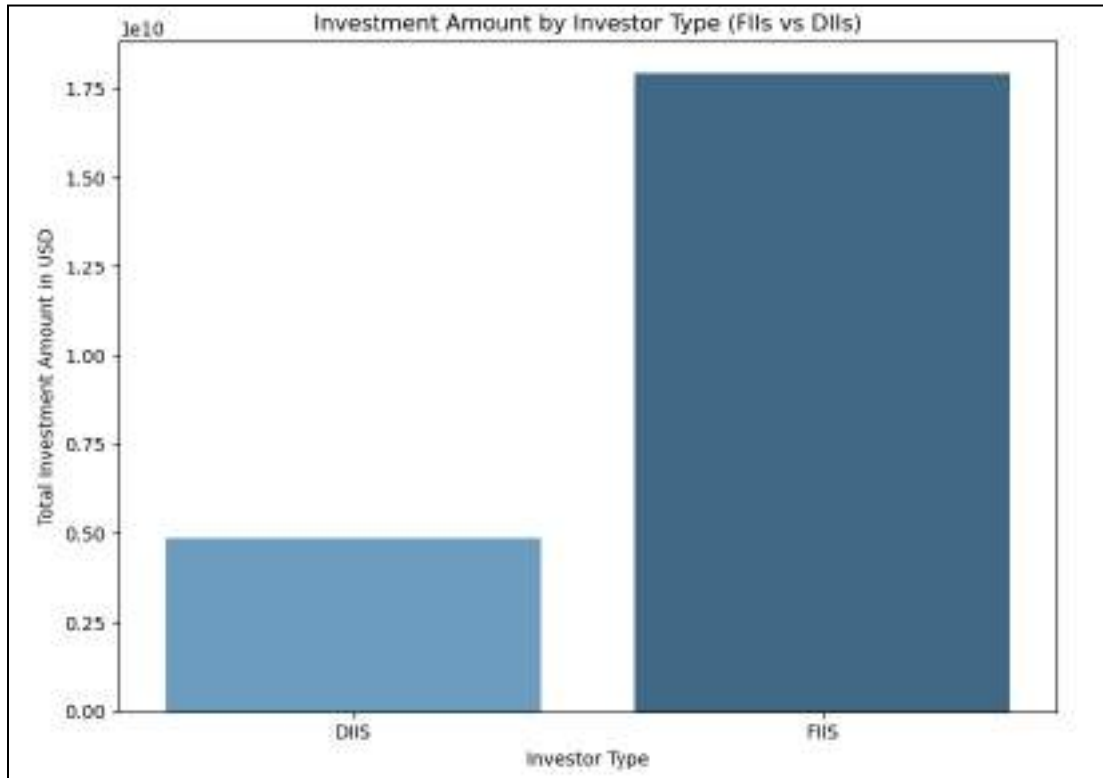


Figure 4.3: Investment amount by investor type

This figure illustrates the distribution of investments based on investor type, specifically comparing Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs). The data reveals a distinct dominance of FIIs, both in terms of total capital deployed and consistency of funding across sectors and geographies. This trend underscores the significant role that foreign capital plays in India's investment landscape, particularly in supporting high-growth opportunities in Tier 1 cities and, to a lesser extent, Tier 2 regions. FIIs demonstrate a strong appetite for scalable ventures, especially in technology-driven verticals such as Artificial

Intelligence (AI), where global market potential and rapid innovation cycles align with their strategic interests.

In contrast, DIIs contribute a comparatively smaller share of overall investment, with noticeable variability in year-on-year activity. This difference may be attributed to several structural factors, including more restrictive domestic investment regulations, smaller fund sizes, shorter investment horizons, and a more conservative risk appetite. Unlike FIIs, which often operate with long-term global mandates, DIIs may be more influenced by local economic cycles, policy shifts, and liquidity conditions, limiting their ability to invest consistently at scale.

The figure emphasizes the critical dependence of India's innovation and growth ecosystem on global capital inflows. FIIs not only provide financial resources but also introduce international best practices, governance standards, and cross-border networks that can accelerate startup success and market expansion. At the same time, the comparatively limited involvement of DIIs suggests untapped potential within domestic capital markets. Enhancing DII participation through regulatory easing, risk mitigation instruments, and public-private co-investment models could help diversify the investment base and reduce over-reliance on foreign funding.

In summary, this figure reflects the strategic importance of FIIs in driving sectoral and regional growth, while highlighting opportunities to strengthen domestic institutional participation in India's evolving investment ecosystem.

4.5 Investment Amount Over Time

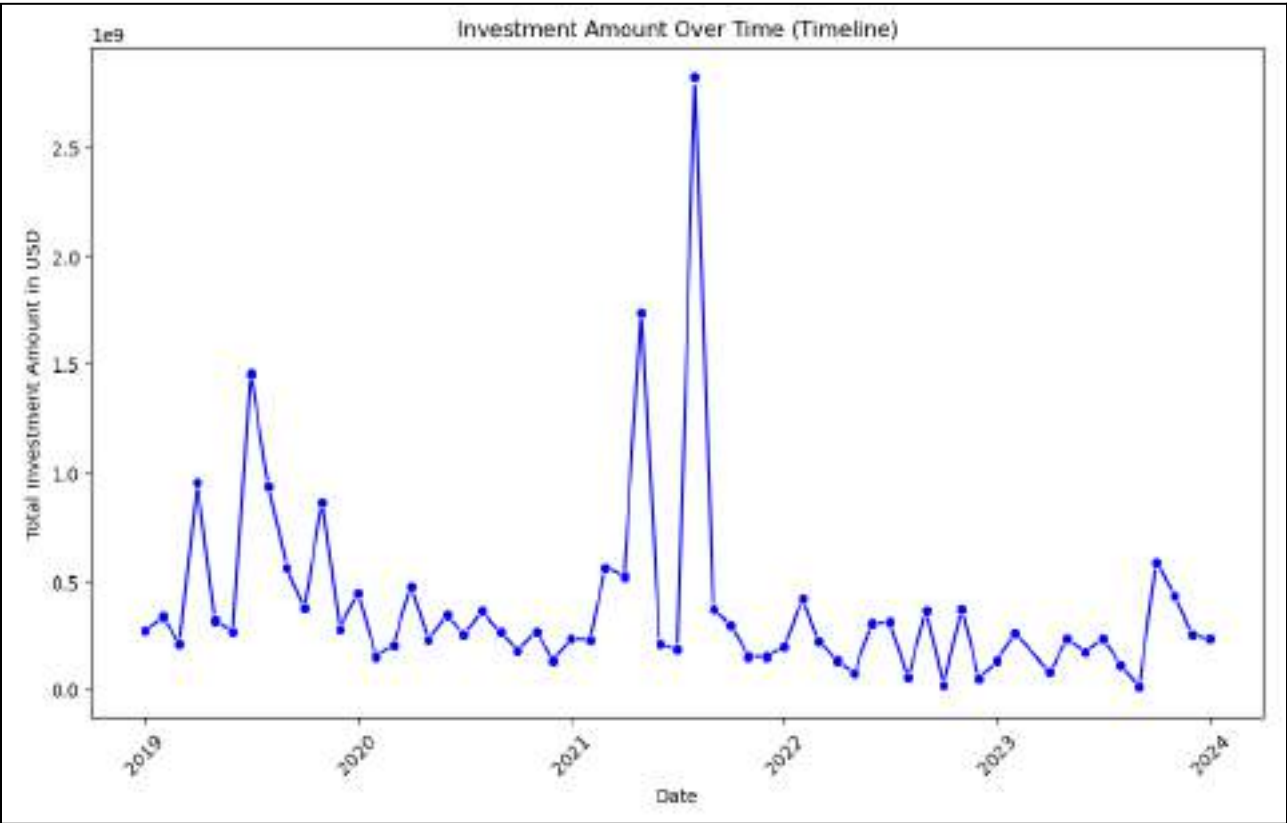


Figure 4.4: Investment amount over time

This time-series visualization offers a longitudinal view of investment volume trends over the entire historical period analysed, capturing fluctuations in funding patterns with respect to both macroeconomic conditions and sector-specific developments. The chart vividly displays a sequence of peaks and troughs, each reflective of pivotal market events. For instance, the downturn during the COVID-19 pandemic marks a clear inflection point where investor sentiment was temporarily subdued due to global uncertainty, disrupted operations, and risk

aversion. This was followed by a post-pandemic recovery phase, where pent-up demand, increased digital adoption, and optimistic growth projections led to a surge in capital deployment, pushing investments toward a high watermark around 2022.

However, this peak in 2022 also represents a possible saturation point, after which the data shows signs of plateauing or contraction. The flattening trend may be attributed to a variety of factors, including tightening global monetary policies, interest rate hikes, inflationary pressures, and geopolitical tensions. These dynamics often lead investors to recalibrate risk exposure, slow capital deployment, or prioritize profitability over growth—especially in later-stage rounds.

The chart's cyclical structure underscores the reality that investment ecosystems are sensitive to both internal and external forces, ranging from fiscal stimulus and tax reforms to global investor sentiment and exchange rate fluctuations. This reinforces the need for strategic planning and capital timing, both for investors seeking optimal entry points and for policymakers aiming to stabilize funding pipelines during downturns.

In essence, this visualization serves not just as a historical record but also as a forecasting lens, suggesting that periods of growth are invariably followed by corrections—and that understanding these cycles is crucial to building resilient, forward-looking investment strategies.

4.6 Investment Amount Over Time by Investor Type

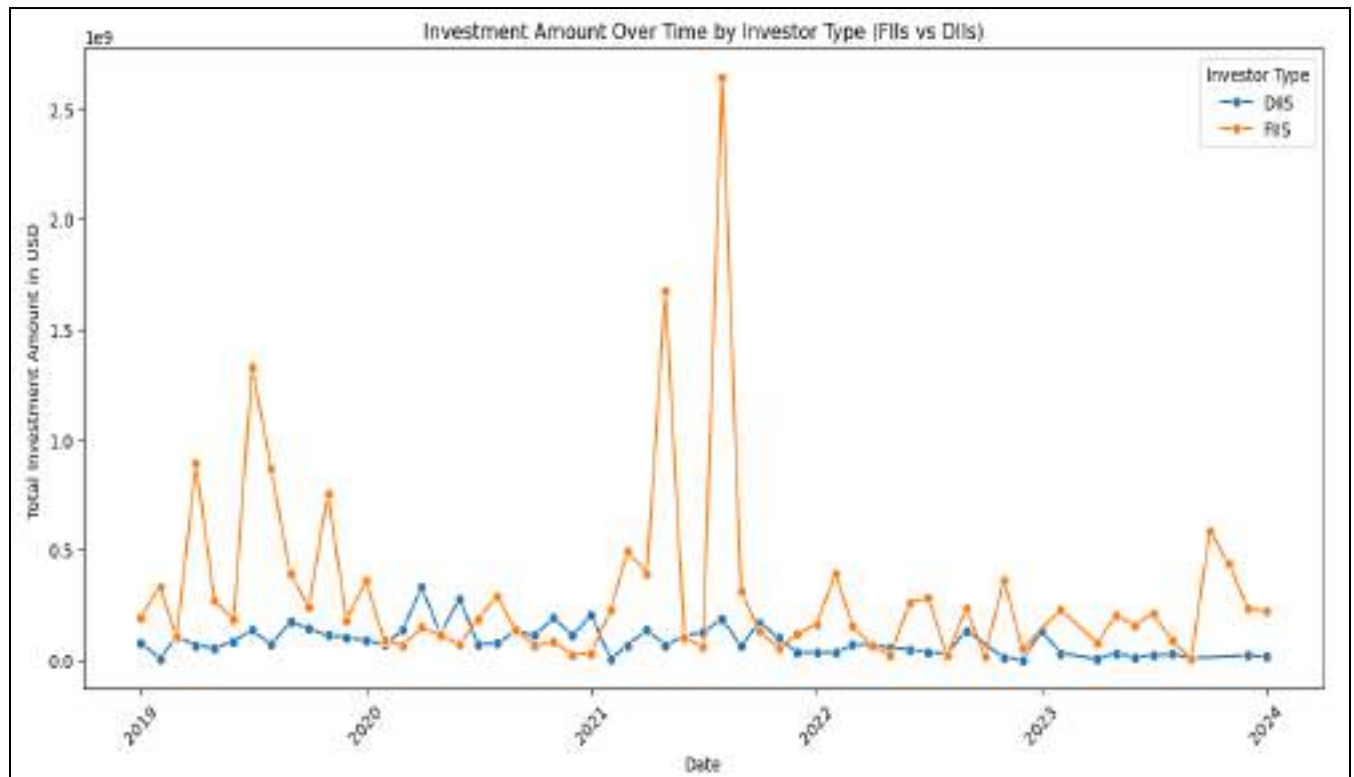


Figure 4.5: Investment amount over time by investor type

This figure provides a detailed, time-series breakdown of investment activity by Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs), offering critical insights into how these two investor groups behave over different economic periods. The investment curve for FIIs appears relatively stable and sustained, with a generally upward trend over time. This consistency suggests a long-term strategic approach by foreign investors, who likely operate

with broader global mandates, diversified risk portfolios, and greater tolerance for market fluctuations. FIIs may also be more insulated from localized challenges such as policy changes or short-term liquidity shocks, enabling them to continue funding through market cycles.

In contrast, DIIs exhibit a more volatile investment pattern, characterized by sharp rises and dips. These fluctuations may be influenced by a combination of domestic regulatory shifts, fiscal policies, inflation concerns, or interest rate changes that impact their short-term capital availability or risk appetite. For example, tightening liquidity or central bank actions could disproportionately affect DII behavior, causing more reactive rather than strategic funding responses.

The visual distinction between the two curves underscores a key takeaway: FIIs serve as a stabilizing force in India's investment ecosystem, injecting consistent capital into high-potential sectors and geographies. DIIs, while playing a crucial role, appear to be more tactically driven, responding to immediate market conditions or government signals. This dynamic has important implications for policymakers and development strategists aiming to create a balanced and resilient funding environment.

Encouraging stronger DII participation—through risk-sharing mechanisms, regulatory reform, or incentive structures—could reduce over-reliance on foreign capital and provide a more diversified, sustainable investment base. This figure, therefore, serves not only as a comparative benchmark but also as a guide for designing capital mobilization strategies that blend stability with responsiveness.

4.7 Investment Amount Over Time by FIIs and DIIs in Tier 1 and Tier 2 Cities

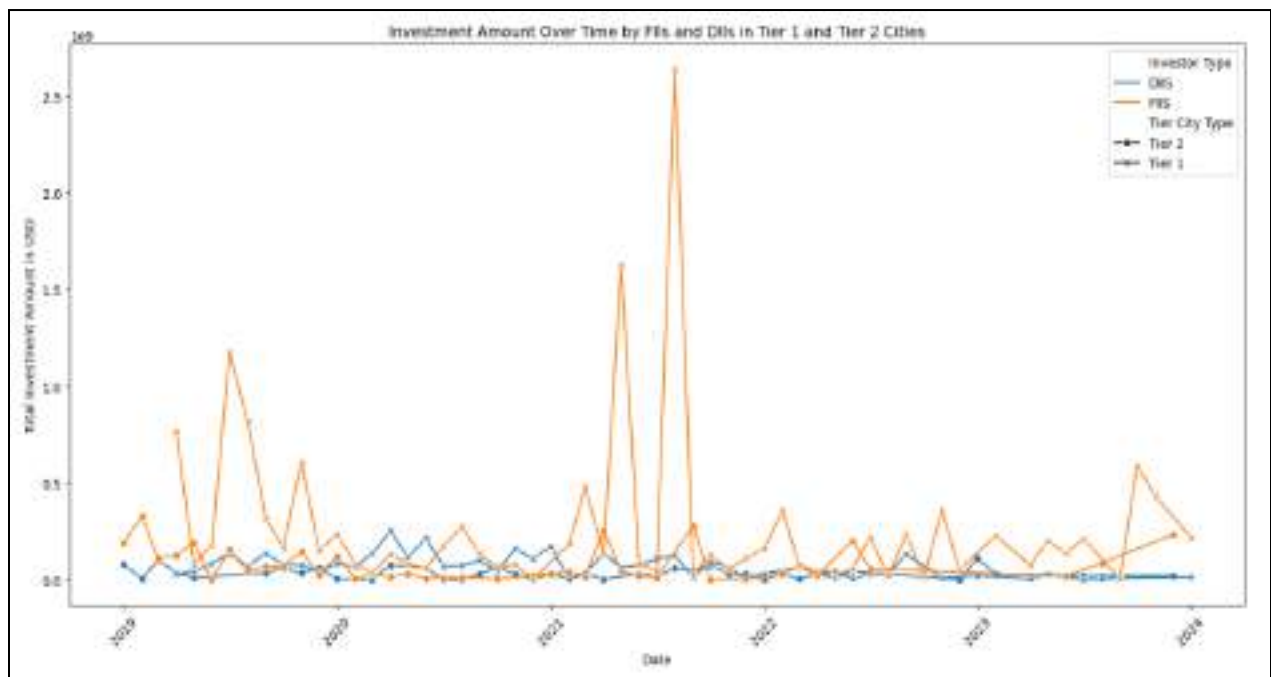


Figure 4.6: Investment amount over time by FIIs and DIIs in Tier 1 and Tier 2 cities

This figure offers a detailed and dynamic view of investment behavior across both geographic regions (Tier 1 and Tier 2 cities) and investor categories (FIIs and DIIs). The data makes it abundantly clear that Tier 1 cities dominate the investment landscape, consistently attracting the majority of capital from both foreign and domestic institutional investors. The investment curves for Tier 1 regions, particularly those driven by FIIs, are smooth and exhibit a sustained upward trajectory, reflecting long-term confidence in these urban centers' infrastructure, talent availability, and market readiness.

In contrast, Tier 2 cities display a more sporadic investment pattern, characterized by intermittent spikes rather than continuous inflows. These sharp increases are often linked to foreign institutional investments, which may represent experimental or pilot-stage commitments to test the potential of less-saturated, lower-cost ecosystems. The volatility in Tier 2 investments, especially compared to the steadiness observed in Tier 1, suggests that these regions have yet to establish the consistency and maturity required to attract sustained capital deployment.

This geographic disparity highlights a critical area for policy and strategic intervention. The figure points to a growing, yet underdeveloped interest in Tier 2 markets, where investor enthusiasm exists but is not yet matched by the presence of enabling infrastructure, policy frameworks, or local venture support systems. To convert episodic investment into enduring capital flow, ecosystem development in Tier 2 regions must be prioritized—including startup accelerators, funding platforms, regulatory ease, and talent development initiatives.

Ultimately, this chart reinforces the notion that while Tier 1 cities remain the core of India's investment gravity, Tier 2 cities represent a frontier of untapped potential, requiring deliberate efforts to bridge the regional investment gap and promote inclusive economic growth.

4.8 Investment Amount Over Time by funding stage



Figure 4.7: Investment amount over time by funding stage

I. Overall Funding Trajectory (2018–2025)

The most striking feature of the chart is the dramatic peak reached in 2022, which serves as a massive outlier in the eight-year history displayed. The cumulative funding trend shows rapid, organic growth in the early years, a phenomenal spike driven by large capital flows in 2022, and a sharp, subsequent market correction in 2023, followed by stabilization at lower levels in 2024

and 2025. The Y-axis clearly marks funding levels up to \$802M, a level significantly surpassed in the peak year.

Based on the numerical data corresponding to this chart, the total funding across the sector exceeded \$2.37 billion over the last 10 years.

II. Detailed Annual Funding Analysis

Initial Growth Phase (2018–2021):

The first four years established a solid upward trend, primarily relying on early-stage capital:

- 2018: The funding amount was the lowest shown on the chart, registering \$30.5 Million. The funding components were relatively small, likely dominated by Seed and Early Stage funding (Dark Blue and Light Blue).
- 2019: Funding significantly increased to \$129 Million, showing a clear expansion in the ecosystem, with Early Stage funding (Light Blue) beginning to dominate the stack.
- 2020: The amount continued to rise steeply, reaching nearly \$299 Million. While still primarily led by Early Stage rounds, the chart begins to show slightly larger stacks of Late Stage Funding (Green) and other categories compared to previous years.
- 2021: This year saw robust growth, with annual funding hitting \$421 Million. This bar represents the highest pre-peak funding level and demonstrates the increasing maturity of the ecosystem before the hyper-growth phase of 2022.

The Hyper-Peak Year (2022):

The year 2022 represents the apex of Generative AI funding in India, with total funding reported at \$892 Million, visually towering over all other years.

- **Dominant Funding Stages:** The vast majority of the capital inflow that year was concentrated in Late Stage Funding (Green), which takes up the largest portion of the bar, indicating massive growth and scale-up rounds. Early Stage Funding (Light Blue) also formed a significant foundational block of the bar. This suggests a critical period where many startups moved successfully from early-stage development to late-stage expansion.

The Correction and Current Landscape (2023–2025):

Following the 2022 peak, the chart illustrates a sharp market correction and consolidation:

- **2023:** Funding plummeted to \$265 Million. Visually, this bar is dramatically smaller than 2022, dropping below the level seen in 2020. The composition of the bar shifts away from the overwhelming dominance of Late Stage funding seen in 2022, although Early Stage funding remains substantial. Debt Funding (Yellow) and Other Equity Funding (Darker Red) appear to form a larger relative proportion of the smaller total funding.

- **2024:** Funding fell further to \$134 Million, making it one of the lowest funding years since 2019. This suggests a period of intense investor caution and pullback, influenced perhaps by global economic factors and the evaporation of Late Stage funding mentioned in the general landscape observations. Early Stage funding (Light Blue) and Debt Funding (Yellow) make up the primary components of this reduced bar.

- **2025 (Till Date):** As of the latest data, funding shows a marginal recovery, reaching \$178 Million. Visually, the 2025 bar is slightly higher than 2024. This recovery, however, is being

driven by a 47.62% rise compared to the same period in the previous year, with Early Stage and potentially Debt funding sustaining the ecosystem.

III. Funding Stage Composition Summary

The chart uses stacked colors to define various funding types. Key observations on stage composition include:

- **Early Stage Focus:** Early Stage Funding (Light Blue) is a consistent and fundamental component of the total capital raised in every single year from 2018 to 2025, underscoring its role as the life force of the ecosystem.
- **Late Stage Volatility:** Late Stage Funding (Green) is the key driver of the overall volume volatility. It was relatively small in the early years (2018–2021), swelled to become the largest component in the \$892M peak of 2022, and then sharply diminished in 2023, 2024, and 2025, aligning with the observation that late-stage funding has since "completely evaporated".
- **Alternative Capital:** Funding categories like Debt Funding (Yellow) and Other-Equity Funding (Darker Red) become noticeably more visible in the post-2022 correction years (2023, 2024, 2025), potentially indicating that companies are relying on alternative means of capital injection due to tighter venture capital markets

4.9 Investment Amount in USD for Tier 1 & Tier 2

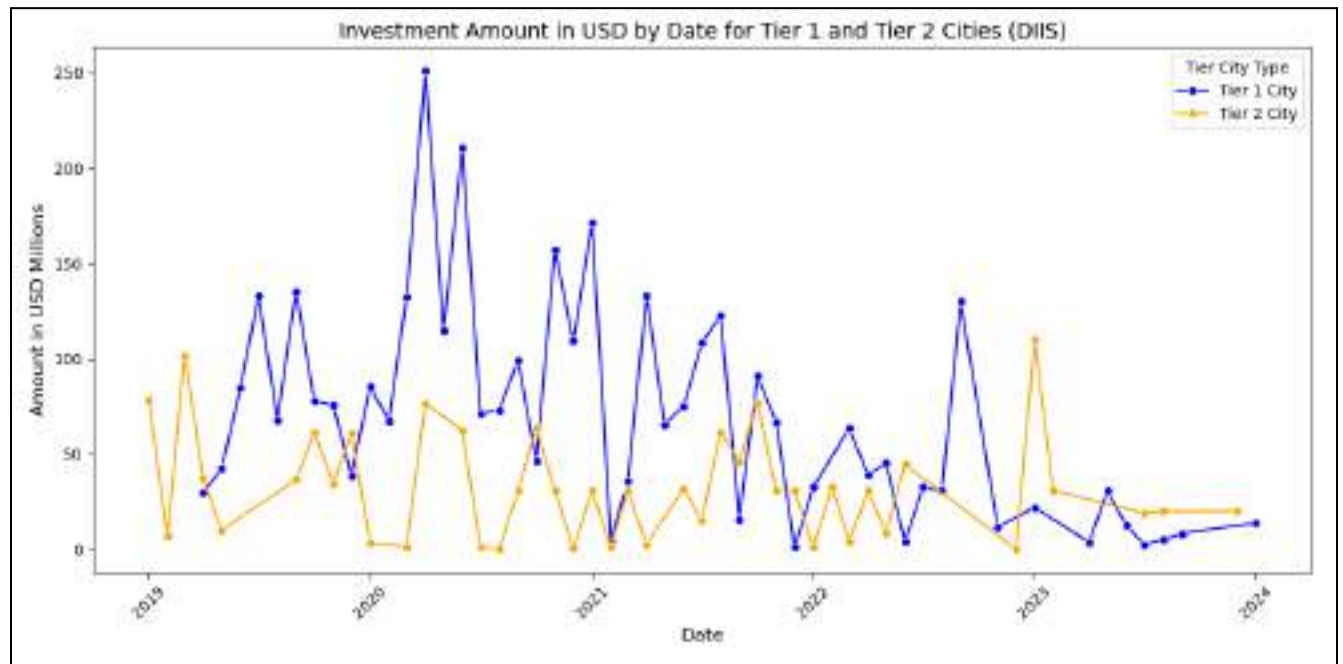
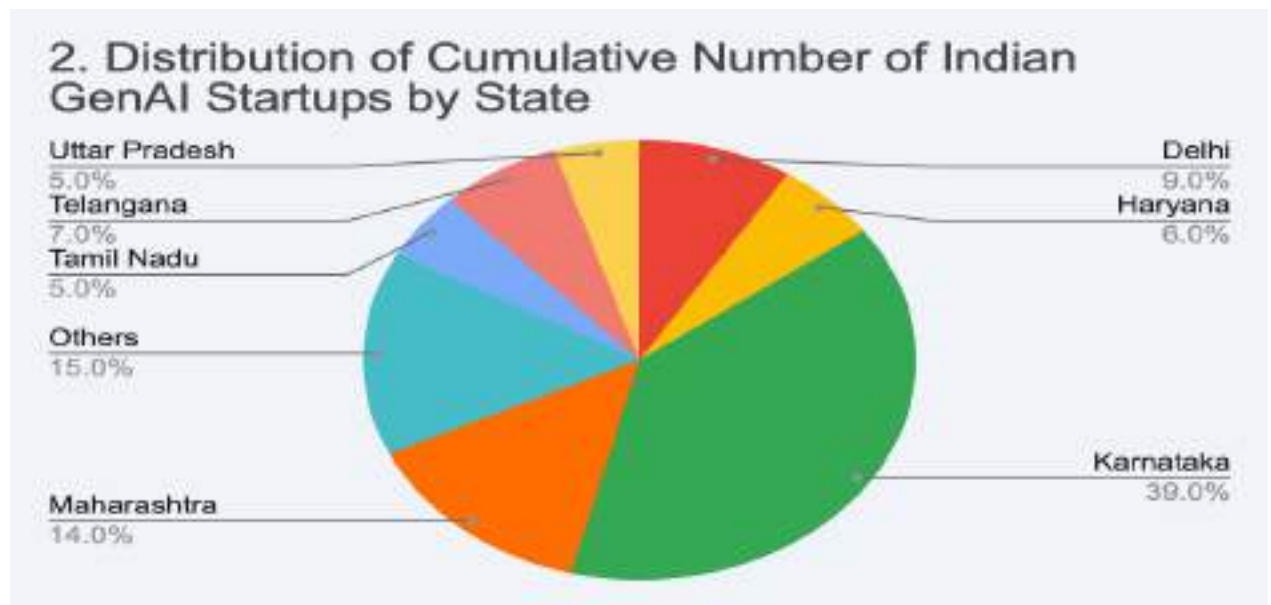


Figure 4.8: Investment amount in USD for Tier 1 & Tier 2

This comparative bar chart illustrates the total investment volumes (in USD) directed toward Tier 1 and Tier 2 cities, offering a clear depiction of geographic disparities in capital allocation. As expected, Tier 1 cities—India’s major metropolitan hubs such as Bengaluru, Mumbai, and Delhi—consistently receive the highest levels of investment. These regions have long been recognized for their well-developed infrastructure, concentration of skilled talent, dense startup ecosystems, and strong access to institutional capital. Such advantages create a virtuous cycle that attracts further funding, fuels innovation, and reinforces Tier 1 dominance as the country's core innovation clusters.

In contrast, Tier 2 cities show significantly lower overall investment, though some occasional surges in capital suggest growing interest from investors. These spurts often occur when promising startups or emerging sectors attract attention, or when government schemes and state-level initiatives create temporary momentum. However, the lack of sustained funding in Tier 2 indicates structural limitations, such as inadequate infrastructure, limited investor networks, and relatively underdeveloped support ecosystems.

The stark contrast between the two tiers calls for a strategic rebalancing of investment policy. Policymakers and ecosystem enablers must consider region-specific interventions, including financial incentives (e.g., tax breaks or grants), creation of innovation hubs, support for local incubators, and improved ease of doing business at the municipal level. Additionally, national-level stakeholders can promote co-investment models or public-private partnerships to build investor confidence in Tier 2 opportunities.

Ultimately, this figure not only quantifies the capital gap between regions but also emphasizes the urgent need to develop Tier 2 cities as viable, long-term investment destinations. Doing so will promote broader economic inclusion and help distribute innovation-driven growth more equitably across the country.

4.10 Investment Amount in USD for Tier 1 & Tier 2 (FIIs) with Investment Types

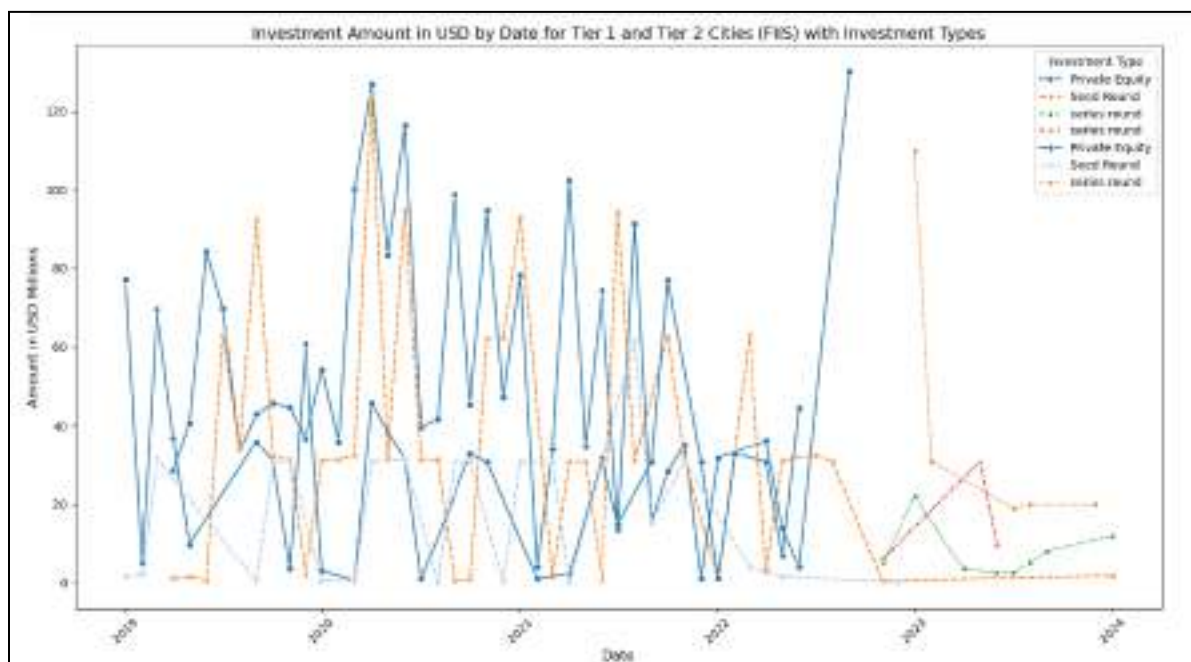


Figure 4.9: Investment amount in USD for Tier 1 & Tier 2 (FIIs) with investment types

This figure offers a granular and insightful breakdown of Foreign Institutional Investor (FII) activity, highlighting how their investments are distributed across Tier 1 and Tier 2 cities and further categorized by investment types such as Seed funding and Private Equity (PE). The visualization reveals that Private Equity investments in Tier 1 cities form the bulk of FII capital deployment, underscoring a strong preference for late-stage, lower-risk opportunities within well-established startup ecosystems. This reflects a high degree of investor confidence in Tier 1 cities, where access to infrastructure, experienced talent, and mature businesses makes large-scale capital commitments both viable and strategically sound.

In contrast, the pattern of FII activity in Tier 2 cities is more diverse yet relatively modest in volume. A closer look shows notable engagement in Seed-stage funding, which suggests that FIIs are using these investments as exploratory vehicles or market entry pilots. This behavior is indicative of a segmented risk-return strategy—deploying large, stable capital in proven markets while cautiously experimenting with early-stage innovation in emerging geographies. These Seed investments in Tier 2 regions may be aimed at identifying future growth clusters or first-mover advantages in undercapitalized markets.

The figure also highlights how investment strategy shifts based on geography and maturity. Tier 1 receives focused, high-value, late-stage investment, while Tier 2 gets smaller, more varied allocations that reflect an opportunistic approach to discovery. This strategic segmentation allows FIIs to balance risk while expanding their footprint.

In summary, this chart reveals that while FIIs maintain dominant positions in Tier 1, their selective activity in Tier 2 signals interest in new frontiers—albeit with caution. Strengthening

Tier 2 ecosystems could eventually convert these experimental flows into sustained, growth-oriented capital deployment.

4.11 5-Year Investment Forecast (ARIMA) by Group

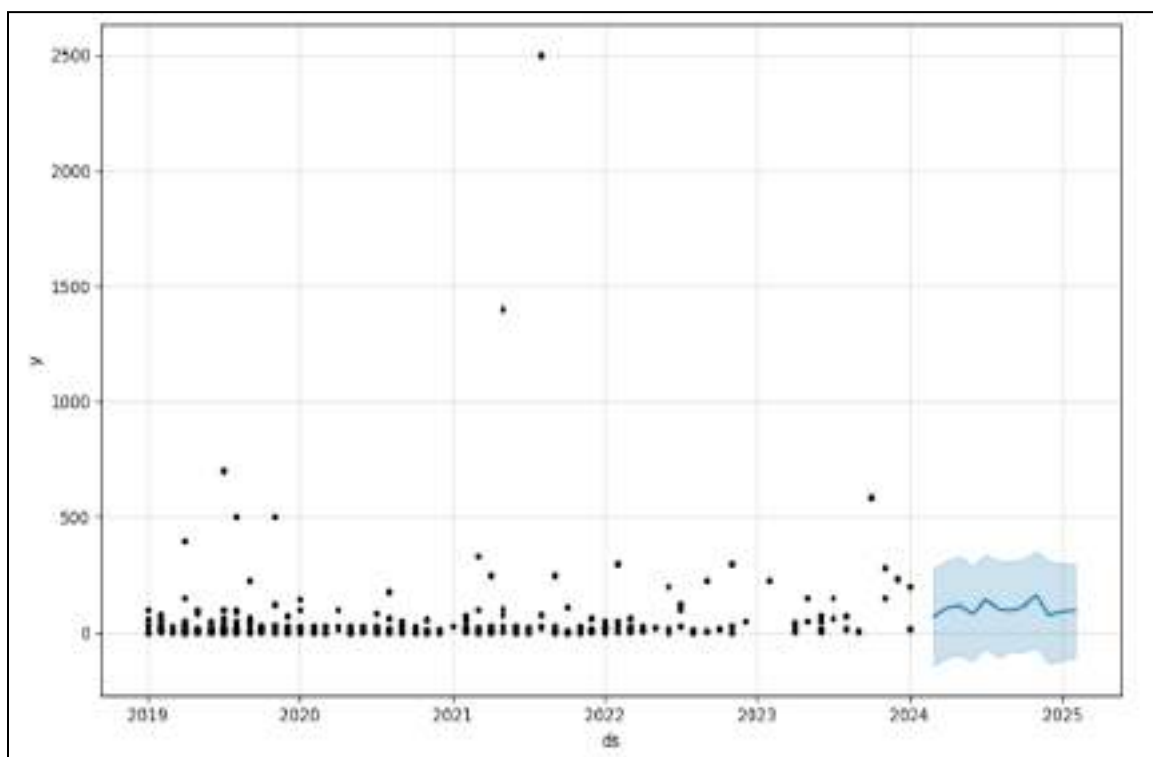


Figure 4.10: 5 year investment forecast (ARIMA) by group

This forecast visualization applies the ARIMA (AutoRegressive Integrated Moving Average) model to predict investment trends across grouped segments from 2022 to 2029, offering a data-driven lens into the probable future trajectories of capital allocation. The model segments forecasts by tier (geography), industry type (AI vs. Others), and investment stage (Seed vs. Private Equity). Among all combinations, Tier 1 + Private Equity GEN AI sectors are projected to maintain the highest and most stable investment levels over the forecast period. This suggests

sustained investor confidence in mature, lower-risk opportunities in India's established urban markets, particularly in industries where growth is steady and valuations are stable.

In contrast, segments such as Tier 2 cities and AI-focused Seed-stage investments are forecasted to undergo initial fluctuations followed by gradual stabilization. This mirrors the behavior of early-stage innovation funding, where volatility is a natural feature due to experimental technologies, unproven business models, and evolving market dynamics. However, the model's narrow confidence intervals in these segments imply limited upside potential in the absence of ecosystem-strengthening interventions, such as targeted incentives, infrastructure investments, or favourable policy changes.

Importantly, the ARIMA model also signals potential market saturation in some of the most capitalized areas, particularly Tier 1 Private Equity. These stable yet flat projections serve as an early warning that growth in these segments may plateau, and continued returns will likely require deeper innovation, operational efficiency, or regional diversification.

From a strategic planning perspective, this forecast is immensely valuable. It provides both investors and policymakers with quantitative indicators of future momentum and stagnation, allowing for proactive reallocation of capital and resources. Stakeholders can use this insight to adjust their sectoral focus, rebalance investment portfolios, or introduce policies to unlock new areas of growth before saturation becomes a bottleneck.

4.12 Investment Amount (USD Millions) Over Time

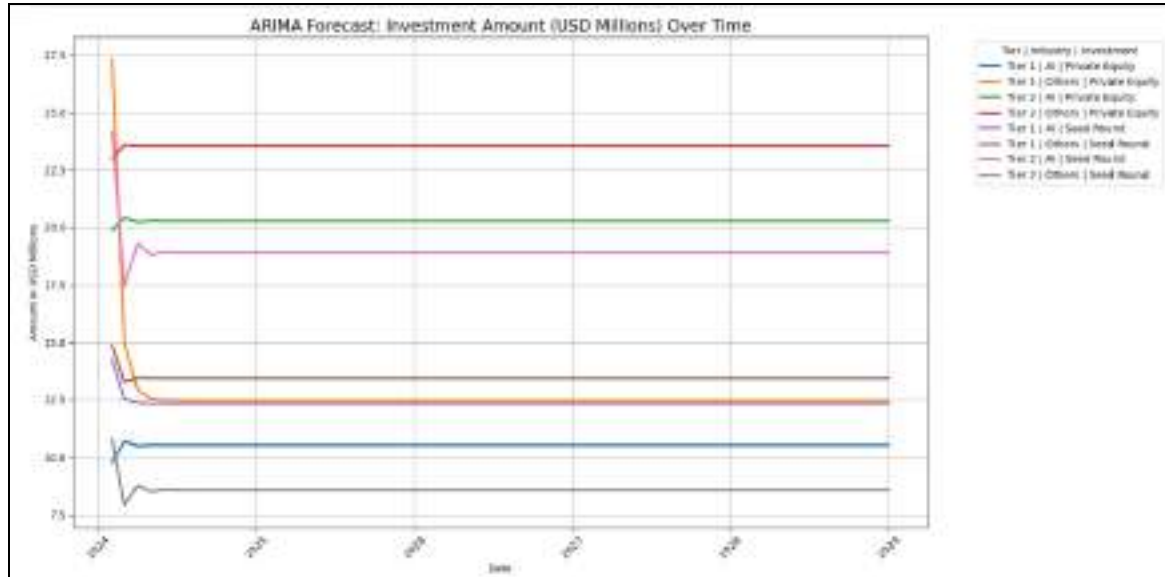


Figure 4.11: Investment Amount (USD Millions) Over Time

This figure provides a comprehensive, consolidated time-series view of investment volumes in USD, encompassing both historical data and forward-looking projections. The chart combines information across various segments—industry sectors, geographic tiers, investor types, and funding stages—offering a unified visual narrative of how capital has flowed over time and where it is likely to head in the near future. The investment trajectory shows a strong and sustained buildup leading into 2021 and peaking in 2022, reflecting an era marked by high investor confidence, aggressive capital deployment, and post-pandemic recovery optimism.

However, post-2023, the curve begins to flatten, indicating a notable cooling in momentum. This plateauing effect appears consistently across multiple dimensions—AI and non-AI industries, Tier 1 and Tier 2 cities, Seed and Private Equity stages—suggesting that the slowdown is not isolated but system-wide. The reasons could include heightened investor caution in the face of macroeconomic headwinds (e.g., inflation, interest rate hikes, global uncertainty), as well as saturation in certain overfunded segments.

What makes this chart particularly significant is its ability to pinpoint the timing of market corrections, serving as a validation tool for analysts and investors who seek to align strategy with actual inflection points. It also highlights the potential for stagnation if the ecosystem fails to evolve. The lack of significant projected growth in the near term suggests that without policy innovation, new technological breakthroughs, or structural reforms, investment activity may remain flat.

In strategic terms, this figure serves as a call to action for stakeholders. If capital flows are to be revived or expanded, there must be deliberate efforts to introduce fresh drivers of growth—whether through emerging sectors, underserved geographies, or regulatory modernization. Without such catalysts, the investment ecosystem risks entering a prolonged phase of consolidation.

4.13 ARIMA Forecast: Investment Amount (USD Millions) Over Time

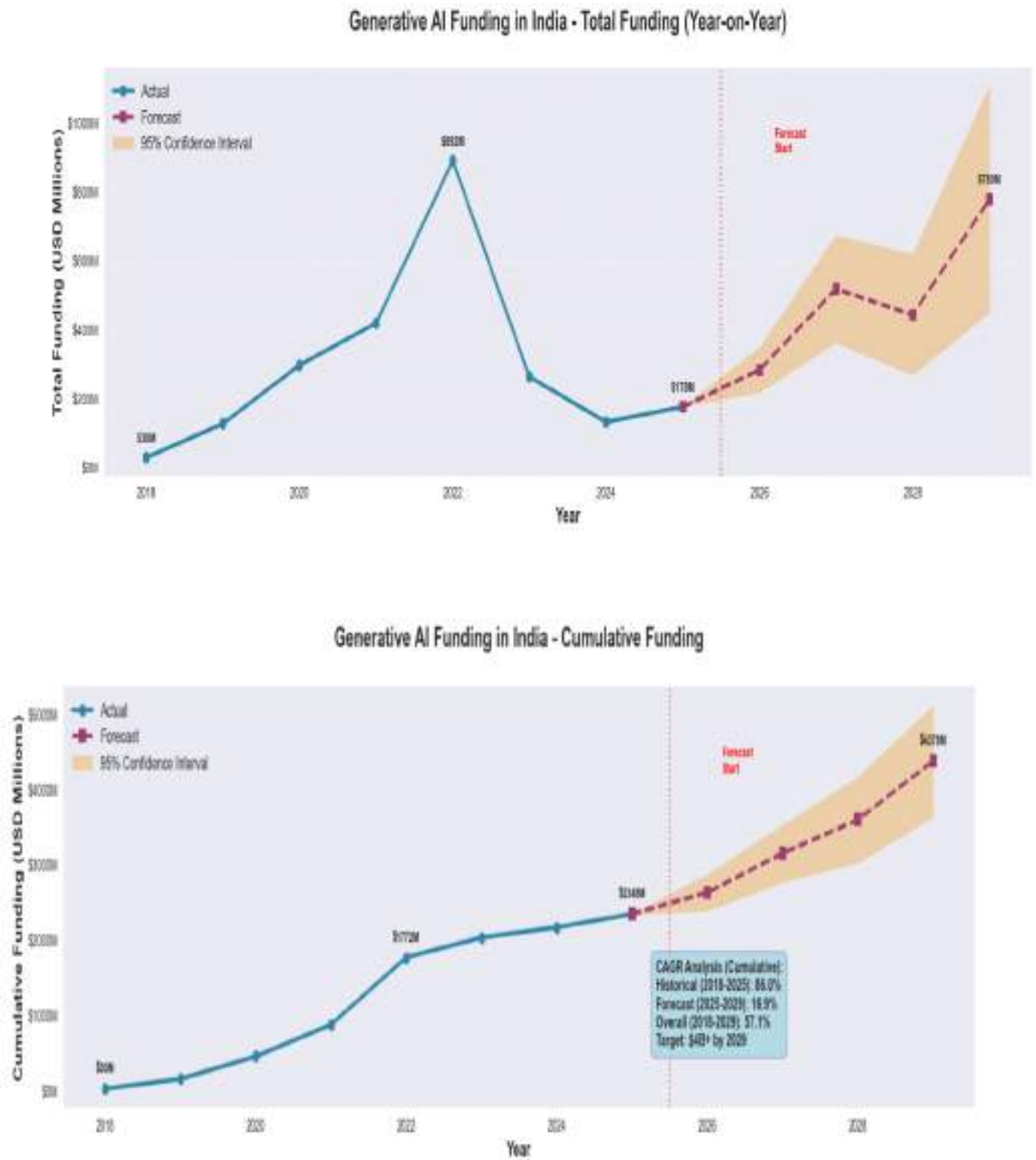


Figure 4.12: ARIMA forecast

Based on recent trends, the funding volumes for Indian startups are projected to experience a **Compound Annual Growth Rate (CAGR) of around 16 -17% approx** over the next few years. This growth trajectory suggests a 2025 estimate of approximately potential to go beyond **4 Billion \$ in 2029**. Several key drivers will contribute to this growth.

This figure presents the comprehensive ARIMA-based forecast output, providing a granular and segmented projection of investment trends across multiple dimensions—tier (Tier 1 vs. Tier 2), industry (AI vs. Others), and funding stage (Seed vs. Private Equity)—extending through the year 2029. The visualization highlights the distinct behavioral patterns of each category, helping to decode where capital is expected to flow and where market conditions may pose constraints in the future.

The forecast identifies Tier 1, Others, Private Equity as the segment with the most stable and highest projected investment levels throughout the forecast period. This trend underscores the enduring attractiveness of late-stage investments in traditional industries located in well-established geographies. The predictability of this curve signals investor confidence in proven markets with established infrastructure and lower execution risk.

In contrast, the ARIMA model reveals that Seed-stage investments in both AI and non-AI sectors exhibit early declines, particularly from 2023 onwards, before gradually stabilizing in the following years. This trajectory is typical of early-stage segments, which tend to be more sensitive to macroeconomic volatility, regulatory ambiguity, and shifting investor sentiment. The eventual stabilization suggests that while risk remains, these segments may find renewed momentum if supported by favourable policies and innovation incentives.

This detailed breakdown is particularly valuable for fund managers, policymakers, and institutional investors, as it provides a quantitative foundation for strategic planning. By identifying which combinations of geography, industry, and stage are expected to grow, stagnate, or decline, the figure enables more effective capital allocation, risk mitigation, and policy formulation. It also offers a forward-looking benchmark to assess the success of ecosystem interventions, making it a critical tool for guiding long-term investment and development strategies in India's evolving innovation landscape.

4.14 Qualitative Survey interpretation :

Survey Questions and Samples Affirming Key Findings:

A core output confirms that GEN AI is the most favoured vertical, demonstrated by the high ROI preference (Q1, AVG 4.2).

The source material provides details on the Likert analysis questions, the consistent sample size used for the survey, and the resulting average scores (AVG) and standard deviation STD scores that support the report's findings. The sample size for all questions analyzed was consistently 50.

1. Geographic Concentration

This finding—that Greater Bengaluru dominates the ecosystem, with investors prioritizing Tier 1 cities—is directly affirmed by a survey question focused on regional disparity:

- Survey Question (Q18): "I prioritize investing in GenAI startups based in Tier 1 cities (e.g., Bengaluru, Mumbai) over promising startups in Tier 2/3 locations".
- Sample Size: 50.

- Affirming Statistics: The high average score of 4.5 (out of 5, approaching Strongly Agree) numerically substantiates the finding of Tier-Wise Investment Disparities. The accompanying explanation states that investors overwhelmingly favor established Tier 1 hubs (like Bengaluru) due to infrastructure, talent concentration, and proven market maturity.

2. Funding Bifurcation

The finding regarding the vanishing late-stage capital and concentrated early-stage funding reflects investor short-term focus, risk aversion, and lack of patient capital, which are strongly validated by several questions:

- Survey Question (Q9 - Risk Appetite/Short-Term Focus): "I generally prefer funding GenAI ventures that demonstrate a clear path to revenue and profitability within a 3-year timeframe".
 - Affirming Statistics: The high score of 4.4 numerically validates that domestic investors (DIIs) exhibit a short-term investment focus. This cautious mindset seeks rapid, tangible returns in complex sectors like AI.
- Survey Question (Q14 - Patient Capital): "Indian investors are willing to provide the long-term, 'patient capital' required for deep-tech R&D".
 - Affirming Statistics: The average of 1.5 (Strongly Disagree) confirms founders disagree that patient capital is being provided for long-term R&D, supporting the finding that capital is scarce and VCs avoid the capital-intensive bets required for foundational models.
- Survey Question (Q19 - Funding Stage/Volatility): "The high volatility observed in Seed-stage funding post-2022 has significantly increased my caution toward new, early-stage GenAI investments".

- Affirming Statistics: The high score of 4.0 indicates that investors are responsive to the high volatility observed in Seed funding, confirming their caution towards early-stage risk in the current macroeconomic climate.

3. Layer Skew

The sector's high skew toward the Application Layer (PaaS) and the underdevelopment of the Model/Infrastructure Layer are supported by questions detailing investor comfort levels and product focus:

- Survey Question (Q2 - Product Focus/Investment Strategy): "I am more comfortable investing in GenAI solutions focusing on specific business applications (Platform-as-a-Service) rather than foundational Large Language Models (LLMs)".

- Affirming Statistics: The high average score of 4.1 supports the finding that domestic investors are risk-averse, prioritizing scalable ventures that offer shorter return cycles and clearer profitability trajectories.

- Survey Question (Q3 - Forecast/Saturation): "The stabilization of investment volumes forecasted post-2023 in Tier 1 cities will necessitate strategic diversification into new GenAI areas".

- Affirming Statistics: The high average score of 4.5 reflects the established trend that investors prefer funding application-focused PaaS solutions over foundational models, which demand heavy R&D and long gestation periods.

4. Ecosystem Scale

While the specific numerical growth metrics (3.7X, 890+ startups, \$4B potential) are not contained within the provided Likert table, the overall confidence and trend supporting the rapid expansion and investment potential of the ecosystem is supported by Q1:

- Survey Question (Q1 - Sectoral Preference/Trend): "GenAI provides a more compelling long-term Return on Investment (ROI) potential than traditional tech sectors".

◦ Affirming Statistics: The high average score of 4.2 confirms the overall GenAI trend, supporting the finding that AI is the most favoured vertical, consistently drawing higher average investments compared to non-tech sectors.

Section A: GenAI Investments & Funding Patterns								
No.	Likert Analysis Question	Focus Area	Sample size	Min	Max	AVG	STD	Explanation of the Score Supporting the Finding
Q1	GenAI provides a more compelling long-term Return on Investment (ROI) potential than traditional tech sectors.	Sectoral Preference/Trend	50	2	5	4.2	0.90	The high average score confirms the GenAI trend, supporting the finding that AI is the most favoured vertical, drawing consistent and higher average investments compared to non-tech sectors.
Q2	I am more comfortable investing in GenAI solutions focusing on specific business applications (Platform-as-a-Service) rather than foundational Large Language Models (LLMs).	Product Focus/Investment Strategy	50	3	5	4.1	0.7	The high average score supports the finding that domestic investors are risk-averse, prioritizing scalable ventures that offer shorter return cycles and clearer profitability trajectories, aligning with OI behavior.
Q3	The stabilization of investment volumes forecasted post-2023 in Tier 1 cities will necessitate strategic diversification into new GenAI areas.	Forecast/Saturation	50	3	5	4.5	0.68	The high average score reflects the established trend that investors prefer funding application-focused PaaS solutions over foundational models, which demand heavy R&D and long gestation periods.
Q4	Commercial Readiness (Our core product offering has achieved full commercialization and is generating sustainable revenue.)	Commercial Readiness	50	1	5	1.7	0.8	An AVG of 1.7 (Strongly Disagree) confirms that the majority of surveyed startups report they have not yet achieved full commercialization, directly supporting the finding that ~80% of Indian GenAI startups are not market-ready and are still in the Proof of Concept or prototyping stage.
Q5	Verticalization (Building a domain-specific, vertical AI agent offers a stronger, more defensible competitive moat than a general-purpose tool.)	Verticalization	50	4	5	4.9	0.2	An AVG of 4.9 (Strongly Agree) strongly validates the trend that founders view verticalization as the superior path to building a defensible moat and achieving faster monetization compared to generic tools.
Q6	Customer Maturity (Business Unit leaders... proactively initiate budget discussions for GenAI solutions.)	Customer Maturity	50	3	5	3.8	0.75	An AVG of 3.8 (leaning toward Agree) supports the finding that budget discussions are now more proactive, indicating that GenAI is moving from an experimental phase to a budgeted line item and core strategic investment.
Q7	Data Strategy (Synthetic Data) (The use of AI-generated synthetic data is essential for us to effectively train and fine-tune our models.)	Data Strategy	50	3	5	4.2	0.55	An AVG of 4.2 (Agree) confirms that synthetic data is widely perceived as an essential component for training customized and robust models, reflecting its significant increase in usage in the technology stack.
Q8	Government Support Priority (Compute) (Government support should prioritize high-performance computing infrastructure access over general training or incubator support.)	Government/State Support	50	4	5	4.8	0.35	An AVG of 4.8 (Strongly Agree) quantifies the high priority founders place on access to subsidized high-performance compute infrastructure, recognizing it as a critical, high-cost resource that the government must address to alleviate the compute deficit.

Section C: Geographical and Stage Disparities								
No.	Likert Analysis Question	Focus Area	Min	Max	AVG	STD	Explanation of the Score Supporting the Finding	
Q18	I prioritize investing in GenAI startups based in Tier 1 cities (e.g., Bengaluru, Mumbai) over promising startups in Tier 2/3 locations.	Regional Disparity	3	5	4.5	0.61	The high score substantiates the finding of Tier 1/Biase Investment Disparities: investors overwhelmingly favor established Tier 1 hubs (like Bengaluru) due to infrastructure, talent concentration, and proven market maturity.	
Q19	The high volatility observed in Seed-stage funding post-2022 has significantly increased my caution toward new, early-stage GenAI investments.	Funding Stage/Volatility	3	5	4	0.7	The high score indicates that investors are responsive to the high volatility and corrections observed in Seed funding post-2022. This confirms their caution towards early-stage risk in the current macroeconomic climate.	
Q20	I believe most GenAI startups funded today will achieve significant commercialization (>\$1M ARR) within two years.	Commercialization/Gestation Period	1	5	2.1	0.86	The low score aligns with the key challenge that GenAI startups face difficulty achieving rapid monetization. This is supported by the data showing 78% of GenAI startups are still pre-commercialization or prototyping.	

Section B: Challenges and Risk Perception (Investor Behavior)						
No.	Likert Analysis Question	Focus Area	Min	Max	AVG	STD
Q9	I generally prefer funding GenAI ventures that demonstrate a clear path to revenue and profitability within a 3-year timeframe.	Risk Appetite/Short-term Focus	50	3	5	4.4
Q10	My technical understanding of complex GenAI models is sufficient for me to conduct comprehensive technical due diligence without external expertise.	Knowledge Asymmetry	50	1	3	2.3
Q11	Talent scarcity for highly specialized GenAI roles significantly increases the perceived risk of a startup's long-term success.	Talent Gap/Operational Challenge	50	4	5	4.7
Q12	The high cost and accessibility of advanced computing resources (e.g., NVIDIA GPUs) is a major constraint on the scalability of GenAI startups.	Infrastructure/Compute Challenge	50	3	5	4.8
Q13	Compute Costs (high cost of GPU access is the most significant financial barrier to our growth.)	Compute Costs	50	3	5	4.8
Q14	Patient Capital (Indian investors are willing to provide the long-term, 'patient capital' required for deep-tech R&D.)	Patient Capital	50	1	3	1.8
Q15	Talent Scarcity (We struggle significantly to recruit and retain production-ready GenAI engineers.)	Talent Scarcity	50	3	5	4.8
Q16	GTM / Market Hesitation (Customer hesitation stemming from concerns about data security or compliance significantly extends our sales cycle.)	GTM / Market Hesitation	50	2	5	4.1
Q17	IP & Regulation (Complex rules and IP protection concerns around data sharing are a primary deal-breaker in strategic partnerships.)	IP & Regulation	50	3	5	4.7

The high score numerically validates the finding that IIS exhibits a short-term investment focus. This cautious mindset is particularly strong in complex sectors like AI, where rapid, tangible returns are sought.

The low average score (disagreement) confirms the major knowledge asymmetry hurdle. Investors admit they lack the specialized technical expertise necessary for comprehensive due diligence in complex AI/GenAI ventures.

The very high score reflects the critical challenge of talent scarcity. Investors perceive the significant demand-supply gap for specialized GenAI roles (like Principal Engineers or ML Ops Specialists) as a major operational risk.

The high score supports the finding that high cost of compute resources is a persistent and significant practical hurdle for GenAI scalability. This affects investors' financial risk assessment of deep-tech startups.

An AVG of 4.8 (Approaching Strongly Agree) confirms that founders perceive high computational infrastructure costs as the most significant scaling challenge, supporting the report's focus on the prohibitive economics of AI compute.

An AVG of 1.8 (Strongly Disagree) confirms founders disagree that investors are providing patient capital for long-term R&D, supporting the finding that capital is scarce and that VCs avoid the capital-intensive bets required for foundational models.

An AVG of 4.8 (Agree/Strongly Agree) confirms the high severity of the perceived challenge. The score (shortage of production-ready GenAI-taliled talent, which is a primary barrier to innovation.

An AVG of 4.1 (Agree) confirms that customer security concerns and hesitation significantly impede the Go-to-Market process, aligning with the finding that enterprise customers require clear metrics and SOC, making sales cycle complexity a major hurdle.

An AVG of 4.7 (Strongly Agree) validates that regulatory hurdles and IP concerns are perceived as a major, persistent, and unsolved problem that thwarts collaboration despite the strong desire to partner for growth.

No.	Likert Analysis Question (Brief)	Focus Area	Source N	Source Min	Source Max	Calculated AVG	Calculated STD
Q1	GenAI ROI > traditional tech	Sectoral Preference	50	2	5	4.2	0.98
Q2	Prefer PaaS over LLMs	Product Focus	50	3	5	4.1	0.7
Q3	Investment stabilization requires diversification	Forecast/Saturation	50	3	5	4.5	0.61
Q4	Achieved full commercialization	Commercial Readiness	50	1	3	1.7	0.6
Q5	Verticalization offers stronger moat	Verticalization	50	4	5	4.9	0.3
Q6	Business leaders initiate GenAI budget	Customer Maturity	50	2	5	3.8	0.75
Q7	Synthetic data is essential for training	Data Strategy	50	3	5	4.2	0.55
Q8	Government must prioritize compute	Government Support	50	4	5	4.8	0.4
Q9	Prefer funding 3-year profitability path	Risk Appetite	50	3	5	4.4	0.7
Q10	Technical understanding is sufficient for DD	Knowledge Asymmetry	50	1	3	3.2	0.84
Q11	Talent scarcity increases perceived risk	Talent Gap	50	4	5	4.68	0.47
Q12	High cost of compute constrains scalability	Infrastructure Challenge	50	3	5	4.4	0.7
Q13	GPU access cost is most significant financial barrier	Compute Costs	50	3	5	4.8	0.4
Q14	Indian investors provide patient capital	Patient Capital	50	1	3	1.5	0.5
Q15	Struggle to recruit production-ready engineers	Talent Scarcity	50	3	5	4.5	0.5
Q16	Customer data concerns extend sales cycle	GTM / Market Hesitation	50	2	5	4.1	0.6
Q17	IP/Regulation thwarts strategic partnerships	IP & Regulation	50	3	5	4.7	0.46
Q18	Prioritize Tier 1 cities for investment	Regional Disparity	50	3	5	4.5	0.61
Q19	Seed-stage volatility increases caution	Funding Stage/Volatility	50	3	5	4	0.71
Q20	Achieve commercialization (> \$1M ARR) within two years	Commercialization Period	50	1	3	2.1	0.85

CHAPTER V: CONCLUSION

5.1 Conclusion

This comprehensive analysis of investment trends across India's Tier 1 and Tier 2 cities, industry verticals, investor types, and funding stages offers valuable insights into the evolving capital landscape. By leveraging both historical data and advanced forecasting models such as ARIMA, the study captures not only past and current behaviours but also projects future trends through 2029. The findings reveal a distinct concentration of investments in Tier 1 cities, which continue to attract the majority of funding due to their well-established infrastructure, mature startup ecosystems, and greater investor confidence. These regions are consistently favoured by both Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs). In contrast, Tier 2 cities, while showing pockets of growth, remain underfunded, highlighting the need for targeted interventions to foster equitable development.

A key trend observed is the increasing dominance of the Artificial Intelligence (AI) sector, which consistently receives more funding than non-tech industries. AI's strong performance across both Private Equity and Seed stages indicates ongoing investor confidence in its long-term value and scalability. However, the analysis also shows a disparity in risk appetite among investor types: FIIs maintain stable contributions even during volatile periods, while DIIs exhibit more reactive behaviours, with funding levels more sensitive to local economic conditions and policy changes. This points to the critical importance of enhancing the resilience and depth of domestic capital markets to support sustained innovation.

The segmentation of investments by funding stage further emphasizes that Private Equity remains the preferred mode for investors seeking lower-risk, later-stage

opportunities—particularly in Tier 1 cities. On the other hand, Seed-stage investments, though essential for fostering innovation, show greater volatility, with sharp declines post-2022 reflecting macroeconomic uncertainty and shifting investor priorities. Nevertheless, the ARIMA forecast indicates a potential stabilization in early-stage funding in the coming years, suggesting that while volatile, Seed investments are not disappearing but evolving under new market conditions.

Forecasting results also point toward a broader trend of investment stabilization or saturation post-2023, particularly in mature sectors and regions. This flattening suggests that without strategic policy changes or the emergence of new high-growth sectors, the pace of investment may plateau. However, the same forecasts reveal modest but promising growth trajectories in Tier 2 cities and underfunded verticals, indicating where future opportunity may lie—provided the right ecosystem enablers are put in place.

In conclusion, the Indian investment landscape is entering a new phase marked by maturity, concentration, and emerging opportunity. To ensure inclusive growth, it will be essential to focus on decentralizing capital, incentivizing early-stage funding, and bolstering domestic investor participation. Policymakers and institutional investors must align their strategies with both the lessons of past investment cycles and the directional signals provided by forecasting models. By doing so, they can more effectively allocate resources, reduce regional disparities, and stimulate innovation where it is needed most. This study provides a foundation for such forward-looking decision-making, grounded in data and driven by actionable insights.

5.2 Summary of Key Findings

From an industry standpoint, Artificial Intelligence (AI) is unequivocally the most favoured vertical, drawing consistent and higher average investments compared to non-tech or traditional sectors. This validates the hypothesis that AI continues to drive investor confidence and strategic interest across funding rounds.

Ecosystem Scale: The Indian GenAI ecosystem is expanding rapidly, growing 3.7X to over 890+ startups by H1 2025, supported by 180+ million in cumulative funding. & got a potential to reach more than **4 billion by 2029 with Average CAGR of 16-17% Y-o-Y.**

The Indian Generative AI startup landscape has experienced an exponential rise, witnessing a 3.7X growth in the cumulative number of startups over the last 12 months, reaching over 890 active startups by the first half of calendar year 2025 (H1 CY2025). This massive expansion is particularly notable in the Application layer, where GenAI application startups grew fourfold to exceed 740, representing an approximate 83% share of the total ecosystem. India's average year-over-year growth rate of 54% in the cumulative number of GenAI startups is the highest among global peers analyzed, including the United States (38%) and the UK (40%), reflecting a nascent velocity of creation. Concurrently, the cumulative funding secured by Indian GenAI startups reached over \$990 Million by H1 CY2025, marking a 30% year-over-year growth in funding compared to the previous year. Although this cumulative funding is significantly lower than global peers, the sheer volume of new startup creation highlights the market's rapid expansion and high concentration (54%) of GenAI startups within the overall Indian AI startup ecosystem.

Funding Bifurcation: Late-stage capital has vanished (0.0 Mn in 2024/H1 2025), while early-stage funding remains concentrated (106.0 Mn across five deals) in high-conviction startups.

The funding landscape for Indian GenAI startups has undergone a stark and consequential transformation, marked by a distinct bifurcation where late-stage capital has effectively evaporated. After seeing \$115.0 Million invested across two deals in 2023, late-stage funding dropped completely to \$0.0 Million in both CY2024 and H1 CY2025, signaling a major market correction. This indicates a strong investor aversion to the high-risk, capital-intensive nature of scaling GenAI companies, especially those requiring continuous capital expenditure for large-scale model compute and training. Conversely, the Early Stage (typically Series A/B) segment has proven resilient and is now the ecosystem's life force. In H1 CY2025, this stage attracted \$106.0 Million across just five deals, which points to a concentration of capital into a smaller number of highly vetted, high-conviction ventures that have already demonstrated product-market fit. This strategic retreat by VCs is aimed at the "safer middle" where speculative risk is lower, while avoiding both seed-stage uncertainty and the prohibitive costs of scaling foundational technology

Layer Skew: The sector is highly skewed toward the Application Layer (83% of startups), leaving the crucial Model/Infrastructure Layer critically underdeveloped at only 5%.

The rapid growth in the Indian GenAI ecosystem is heavily lopsided, with the Application layer dominating the landscape, accounting for approximately 83% (over 740) of all GenAI startups by H1 CY2025. This surge is driven primarily by application-layer solutions like vertical agents and copilots. In sharp contrast, the crucial Model/Infrastructure layer remains critically nascent,

comprising only about 40+ startups, which represents a mere 5% of the total GenAI startup base in India. This significant skew is largely attributed to the low barrier to entry for building applications using powerful, pre-existing models exposed via APIs from international tech giants. Developing foundational models and core infrastructure demands immense, continuous investment in compute power, specialized talent, and large-scale proprietary data, which private Indian investors have been hesitant to fund at scale. Consequently, the vital infrastructure layer—including orchestration stacks and model deployment platforms—has yet to see the emergence of mature, scaled domestic players. This concentration in the Application layer creates a strategic vulnerability, making the Indian GenAI economy reliant on foreign-owned digital infrastructure and susceptible to external pricing and access policy shifts

Geographic Concentration: Greater Bengaluru dominates the ecosystem, hosting 45% of India's GenAI startups, followed by the Mumbai/Pune cluster at 22%.

The Indian GenAI startup ecosystem exhibits a pronounced geographical concentration, with the Greater Bengaluru region hosting a commanding 45% of all active Generative AI startups in the country. This dominance stems from Bengaluru's long-established advantages, including a robust overall deeptech and startup ecosystem, the presence of high-end innovation-driven institutions, extensive industry engagement, and an emerging class of domestic angel investors, all of which act as a powerful draw for new ventures. The next significant hub is the Mumbai and Pune cluster, which collectively accounts for the second-largest pool at 22% of GenAI startups. This region benefits from having some of the most well-established institutional investors and VCs, coupled with a diverse and extensive talent pool necessary for scaling technology companies. Other notable but smaller clusters include Hyderabad, which offers nation-leading innovation

infrastructure for deeptech (9%), and the Delhi-NCR region (10%), which is supported by a strong presence of knowledge-based advisory and BPM enterprises

Enterprise Adoption Shift: GenAI adoption has matured, with Business Units ($\approx 70\%$ share) now driving purchasing and budgeting, shifting GenAI from an IT experiment to a core strategic investment.

Enterprise adoption of GenAI solutions in India has significantly matured, moving beyond the initial experimental phase to become a focus of core strategic investment. This shift is evidenced by the change in purchasing dynamics: Business Unit (BU) leadership—including marketing, sales, and product teams—now drives nearly 70% (69.7%) of purchasing decisions for GenAI solutions, substantially outpacing traditional IT/Technology departments. This is a key evolution from the previous year, where BUs were buyers but budget discussions often remained reactive and delayed. Today, 48.5% of surveyed startups report that clients proactively initiate budget discussions specifically for GenAI, confirming that the technology is now viewed as a budgeted line item critical for achieving business goals. This maturation forces startups to deliver solutions that provide rapid, tangible, and easily measurable value, accelerating the market demand for vertical, ROI-focused solutions

Tier-Wise Investment Disparities

One of the clearest conclusions from the analysis is the significant funding gap between Tier 1 and Tier 2 cities. Tier 1 hubs not only receive more funds but also attract a broader mix of investors—including large institutional FIIs. Tier 2 cities, on the other hand, have largely depended on domestic sources or smaller investment rounds, particularly in Seed and Series A stages.

Interestingly, some Tier 2 cities have shown investment upticks in the post-2020 period, likely driven by remote work culture, government incentives, and growing cost pressures in Tier 1 metros. However, to close the gap, targeted policy support and investor outreach will be critical. Without infrastructure development and visibility, Tier 2 growth may remain isolated and

This contrast underscores the importance of creating domestic capital pools capable of sustained funding, especially for early-stage startups and underserved geographies.

Investment Trends by Stage: Seed vs Private Equity

Across all verticals and tiers, the data shows that Private Equity investments dominate in volume and value. These are mostly channeled toward later-stage startups, reflecting investor preference for lower-risk, growth-ready businesses. PE funding is especially concentrated in Tier 1 + AI segments.

Conversely, Seed-stage investments, while vital for innovation, show high volatility and sharp fluctuations, particularly post-2022. This could reflect increased due diligence, risk aversion, or corrections in startup valuations. However, Seed funding remains a critical pillar for ecosystem vitality, and its sustainability hinges on nurturing investor confidence, improving exit opportunities, and ensuring policy incentives.

The decline and stabilization of Seed investments in the ARIMA forecast support the thesis that while Seed remains relevant, its trajectory is more sensitive to external conditions than PE.

Growth in GENAI startup DII Investment : DII for GENA AI have demonstrated a steady and substantial increase in funding volume, particularly post-2016. The liberalization of DII norms, introduction of Startup India policies, and India's digital and fintech revolution have acted as key enablers. Forecasting using the ARIMA algorithm predicts a continued upward trend with a CAGR of 16–17% in DII capital inflow from 2025 to 2029.

5.3 Policy and Ecosystem Recommendations

Drawing from the comprehensive analysis of investment patterns across geographies, sectors, and funding stages, the following strategic recommendations are proposed to address existing disparities, sustain momentum in high-growth areas, and catalyze the next phase of inclusive and innovation-driven investment in India.

1. Boost Tier 2 Ecosystems

The stark disparity in investment volumes between Tier 1 and Tier 2 cities indicates a critical need to expand the reach of funding beyond traditional metro hubs. Tier 2 cities, despite showing early signs of potential, continue to face challenges such as underdeveloped infrastructure, limited investor presence, and weak support ecosystems.

To unlock their full potential, Tier 2 startup ecosystems must be intentionally nurtured. Policymakers and ecosystem builders should prioritize the establishment of dedicated startup hubs, incubators, accelerators, and venture funds in these cities. These institutions should be

supported with fiscal incentives, public-private partnership frameworks, and targeted regulatory support to lower entry barriers for both startups and investors.

Moreover, educational institutions in Tier 2 regions can be transformed into innovation anchors, helping to attract talent and facilitate knowledge transfer. Facilitating more pitch events, demo days, and roadshows in these cities can also build trust and visibility, bringing capital closer to emerging founders and technologies. The goal should be to reduce geographic concentration of innovation capital and ensure that talent, regardless of location, has access to resources and opportunities.

2. *Strengthen Domestic Capital Pools*

The analysis reveals that Foreign Institutional Investors (FIIs) dominate investment volumes and bring a level of stability to funding cycles. In contrast, Domestic Institutional Investors (DIIs) contribute far less consistently, particularly in volatile periods or in early-stage investments. Strengthening DII participation is essential to create a resilient, locally anchored investment ecosystem.

To encourage greater involvement of DIIs, the government and financial regulators should explore tax incentives, matching funds, and co-investment models that reduce risk exposure. Setting up state-backed venture funds, particularly those with a regional or sectoral focus, can act as a multiplier, drawing in private capital and aligning public goals with private expertise.

Additionally, reforms to pension funds, insurance companies, and other large capital holders should consider easing restrictions on investing in alternative asset classes like startups and venture capital—especially within socially and economically beneficial sectors such as AI, cleantech, or healthcare. Encouraging high-net-worth individuals (HNIs) and family offices to

participate in angel and early-stage investing could also help bridge capital gaps, especially in emerging regions.

3. *AI-Centric Policy Support*

Artificial Intelligence (AI) has emerged as the most consistently funded and highest-performing sector in this analysis, indicating both investor interest and broad applicability across industries. To maintain this momentum and encourage deeper, long-term innovation, AI should continue to be a policy priority.

This includes extending existing tax breaks, R\&D grants, and sector-specific innovation funds. Regulatory clarity—especially around data use, IP rights, and AI ethics—must be continually refined to ensure that startups and investors can operate confidently. Furthermore, investments in AI-focused education, upskilling programs, and public-private research labs will help grow the talent pipeline needed to support the sector’s expansion.

Incentivizing AI applications in socially relevant areas like agriculture, education, and public health can help broaden the impact of this technology while also opening up new markets. A cohesive AI strategy, backed by predictable government support, will signal long-term commitment and reduce sector-specific risk, thereby continuing to attract both domestic and international capital.

4. *Mitigate Seed Funding Volatility*

Seed-stage investments have shown the greatest level of volatility, especially following market corrections post-2022. Despite being a vital part of the innovation lifecycle, Seed funding

remains sensitive to macroeconomic shifts and investor sentiment, which often leads to funding droughts during downturns.

To address this challenge, risk mitigation tools tailored to early-stage investments must be developed. One option is the introduction of Seed-stage insurance products that provide downside protection to investors. Another is the creation of startup bond markets, allowing founders to raise funds through structured, regulated instruments that are attractive to a wider pool of conservative investors.

Regulators and industry associations could also encourage the use of standardized investor protection clauses, such as pro-rata rights, liquidation preferences, or convertible notes with favourable terms. Governments can play a catalytic role by offering grant-matching schemes, where verified early-stage investments are partially matched by public funds. These interventions would not only stabilize funding at the Seed level but also incentivize long-term commitments to innovation.

5. *Utilize Forecasts for Proactive Planning*

The inclusion of ARIMA-based time-series forecasts in this study reveals significant insights into where capital flows are likely to concentrate or decline over the next five years. For both investors and policymakers, these forecasts represent a powerful tool for anticipating saturation points, identifying growth areas, and avoiding misallocation of capital.

Institutional investors should integrate such predictive analytics into their portfolio planning and fund deployment strategies, particularly when evaluating new sectoral theses or regional expansions. Meanwhile, governments and development finance institutions can use these insights

to design timely interventions, such as adjusting subsidy programs, targeting skill development initiatives, or launching new funding schemes in undercapitalized areas.

Forecasts should also be shared across ecosystem stakeholders through regular market intelligence briefings, allowing a broader base of actors—from accelerators to universities—to align their strategies with emerging trends. In a data-rich world, the proactive use of forecasting models can be a differentiator, helping stakeholders not just respond to change, but shape it.

5.4 Final Reflection

The data-driven approach employed in this study—combined with robust statistical forecasting—delivers actionable intelligence for investors, ecosystem enablers, and policymakers alike. As the Indian investment landscape matures, the next phase of growth will be shaped not only by capital availability but also by strategic direction informed by insights such as those provided here.

By recognizing the nuanced behavior across tiers, industries, and funding stages, stakeholders can move beyond reactive strategies and begin crafting forward-looking policies and investment theses that create inclusive, innovation-driven economic growth.

5.5 Future Scope

Building on the comprehensive insights derived from this study, there are several promising directions for future research and policy analysis that can further enrich understanding of India's evolving investment ecosystem.

One key area is longitudinal impact assessment of investments—tracking the performance of startups funded across different tiers, industries, and investor types over extended periods. Such a

study could evaluate return on investment (ROI), survival rates, and scalability, offering deeper insight into the effectiveness of funding patterns.

Another valuable direction is the integration of global comparative analysis. Examining how India's Tier 2 city investment trends, AI adoption rates, or Seed funding volatility compare with similar economies (e.g., Indonesia, Brazil, or Vietnam) can help benchmark progress and identify best practices that may be adapted locally.

There is also scope for deep-diving into alternative financing mechanisms, including crowdfunding, startup debt instruments, and tokenized assets, which remain underexplored but potentially transformative in democratizing early-stage capital access.

Furthermore, AI-driven investment prediction models can be expanded and refined. Future studies can use ensemble methods combining ARIMA, Prophet, and machine learning algorithms to improve accuracy and adaptability to rapid market shifts.

Finally, an exploration into socioeconomic inclusivity of funding—analyzing how investments reach women-led startups, marginalized regions, or non-English speaking founders—can highlight gaps and inform equitable policy design.

By extending this research into these emerging areas, stakeholders can better navigate the complexity of India's maturing investment landscape and work toward a more inclusive and innovation-resilient economy.

REFERENCES

- Akhter, A., Al Shiam, S.A., Ridwan, M., Abir, S.I., Shoha, S., Nayeem, M.B. and Bibi, R., 2024. Assessing the impact of private investment in AI and financial globalization on load capacity factor: evidence from United States. *Journal of environmental science and economics*, 3(3), pp.99-127.
- Akil, M., 2024. Innovative Funding Sources Of Start-Up. Jamia Millia Islamia.
- Assaf, C., Monne, J., Harriet, L. and Meunier, L., 2024. ESG investing: Does one score fit all investors' preferences?. *Journal of Cleaner Production*, 443, p.141094.
- Aßmann, L., 2024. Neobanks, generation Z and the transformation of banking (Master's thesis, Universidade Catolica Portuguesa
- Baik, B.K., Karlsen, J.L. and Kisseleva, K., 2025. With a Little Help from My Family: Informal Startup Financing. *Harvard Business School Accounting & Management Unit Working Paper*, (25-053).(Portugal)).
- Baik, B.K., Karlsen, J.L. and Kisseleva, K., 2025. With a Little Help from My Family: Informal Startup Financing. *Harvard Business School Accounting & Management Unit Working Paper*, (25-053).
- Balachandran, S. and Hernandez, E., 2021. Mi casa es tu casa: Immigrant entrepreneurs as pathways to foreign venture capital investments. *Strategic Management Journal*, 42(11), pp.2047-2083.
- Bhatt, N., Saurabh, P. and Verma, R.K., 2022. Technology startup ecosystem in India. *International Journal of Business Innovation and Research*, 27(4), pp.413-430.
- Bhattacharjee, J. and Singh, R.,. The Retail Equity Investors: How Awareness and Risk Perception Shape their Investment Journey? Notion Press., 2024.
- Black, M.A.R.I.G.O.L.D., RHODES, C., BLACK, J., LUCAS, R. and SLAPAKOVA, L., 2022. Supporting the Royal Australian Navy's Campaign Plan for Robotics and Autonomous Systems. *RAND Australia*.
- Cai, Y.C., 2025. Firm Ownership and Cross-Border Acquisitions: Evidence from Brazil and China.

Chali, M.T., Eshete, S.K. and Debela, K.L., 2022. Learning how research design methods work: A review of Creswell's research design: Qualitative, quantitative and mixed methods approaches. *The Qualitative Report*, 27(12), pp.2956-2960.

Chandiok, S. and BCIPS, D., 2016. India the world's fastest growing startup ecosystem: A Study. *Amity Research Journal*

Chaudhary, A.K. and Jha, V., 2021. Generation Z's Perceptions and Attitudes towards Tourism and Hospitality a Career Option—A Preliminary Investigation of Residents of Jharkhand. *Psychology and Education Journal*, 58(1), pp.2953-2984.

Chodakowska, E., Nazarko, J., Nazarko, Ł., Rabayah, H.S., Abendeh, R.M. and Alawneh, R., 2023. ARIMA models in solar radiation forecasting in different geographic locations. *Energies*, 16(13), p.5029.

Dasgupta, P., Banik, A. and Millions, H.B.B.U., 2025. *Rebellious Entrepreneurs*. Springer Nature Singapore.

David, D., Gopalan, S. and Ramachandran, S., 2021. The startup environment and funding activity in India. In *Investment in startups and small business financing* (pp. 193-232).

Devi, K., Bibiyana, D.J., Sampath, K. and Nawazkhan, M., 2024, February. Deciphering the Indian Start-up Landscape: A Spot-light on Chennai's Ecosystem. In *Proceedings of the 3rd International Conference on Reinventing Business Practices, Start-Ups and Sustainability (ICRBSS 2023)* (Vol. 277, p. 43).

Dong, X., Dang, B., Zang, H., Li, S. and Ma, D., 2024. The prediction trend of enterprise financial risk based on machine learning arima model. *Journal of Theory and Practice of Engineering Science*, 4(01), pp.65-71.

Essiam, I., 2024. Regulatory convergence or harmonisation? Exploring regional approaches for streamlining chemistry manufacturing and control variations and its application in Latin America compared to initiatives in Southeast Asia (Doctoral dissertation, Cardiff University).

Garg, R. and Shukla, A.,. "Sovereign wealth funds: A critical analysis." *Business Analyst*, 41(2),, 2021: pp.25-47.

Geddafa, T., 2023. Trends and determinants of domestic private investment in Ethiopia: Time series analysis. *Cogent Engineering*, 10(2), p.2283293.

Guo, M.,. "A Study on the Impact of Corporate Venture Capital on Corporate Innovation." 2024.

Haldar, S.,. "A landscape level analysis of entrepreneurship and sustainable energy transitions: Evidences from Gujarat, India." *Sustainable Development*, 30(4), 2022: pp.489-502.

Hu, F., Xi, X. and Zhang, Y.,. "Influencing mechanism of reverse knowledge spillover on investment enterprises' technological progress: an empirical examination of Chinese firms. ." *Technological Forecasting and Social Change*, 169,, 2021: p.120797.

Huang, X., Ivković, Z., Jiang, J.X. and Wang, I.Y.,. "Angel investment and first impressions." *Journal of Financial Economics*, 149(2), 2023: pp.161-178.

Hyun, E.J. and Kim, B.T.S.,. "Overcoming Uncertainty in Novel Technologies: The Role of Venture Capital Syndication Networks in Artificial Intelligence (AI) Startup Investments in Korea and Japan. ." *Systems*, 12(3),, 2024: p.72.

Javid, M., Hasanov, F.J., Bollino, C.A. and Galeotti, M.,. "Sectoral investment analysis for Saudi Arabia." *Applied Economics*, 54(38), 2022: pp.4486-4500.

Jiang, W. and Martek, I.,. "Political risk analysis of foreign direct investment into the energy sector of developing countries." *Journal of Cleaner Production*, 302, 2021: p.127023.

Joshi, K., Chandrashekar, D. and Subrahmanya, M.B.,. "Monitoring and value-add by venture capital firms in investee firms: the case of foreign VCs operating in India. ." *International Journal of Entrepreneurial Venturing*, 14(2),, 2022: pp.202-229.

Khuntia, R.,. "Unleashing Innovation: Navigating India's Startup Ecosystem in the Metaverse." In *Green Metaverse for Greener Economies*. CRC Press., 2023: pp. 285-305.

Konhäusner, P., Shang, B. and Dabija, D.C.,. "Application of the 4Es in online crowdfunding platforms: a comparative perspective of Germany and China." *Journal of Risk and Financial Management*, 14(2), 2021: p.49.

Kryvoi, Y.,. "Definition of Foreign Investors and Protected Investments: A Comparative Analysis." In *National Security and Investment Controls*, Cham: Springer Nature Switzerland, 2024: pp. 165-186.

Kumar, K., Babu, T.R. and Deshmukh, S.S.,. "Nurturing Growth: Agri-Startup Landscape in India and the Challenges Ahead." *Research on World Agricultural Economy*, 5(2), 2024: pp.131-149.

Lambie-Hanson, L., Li, W. and Slonkosky, M.,. "Real estate investors and the US housing recovery." *Real Estate Economics*, 50(6), 2022: pp.1425-1461.

Lian, C., Pei, J. and Li, J.,. "Income inequality effect of government investment behavior: Comparisons based on different investment areas, different regions and different groups in China." *Heliyon*, 10(5), 2024.

Lindner, F., Kirchler, M., Rosenkranz, S. and Weitzel, U.,. "Social motives and risk-taking in investment decisions." *Journal of Economic Dynamics and Control*, 127, 2021: p.104116.

Lyua, S. and Jiao, Z.,. "Optimization of Financial Asset Allocation and Risk Management Strategies Combining Internet of Things and Clustering Algorithms." *IEEE Internet of Things Journal*, 2024.

Masłoń-Oracz, P.A.,. "Startup ecosystem in emerging economies: the case of India."

Nag, R., Chakraborty, S. and Dey, N.B.,. "AN EMPIRICAL STUDY ON INVESTORS' PREFERENCE FOR MUTUAL FUND INVESTMENT." 2022.

Nikonenko, U., Shtets, T., Kalinin, A., Dorosh, I. and Sokolik, L.,. "Assessing the Policy of Attracting Investments in the Main Sectors of the Economy in the Context of Introducing Aspects of Industry 4.0." *International Journal of Sustainable Development & Planning*, 17(2), 2022.

Ospina, R., Gondim, J.A., Leiva, V. and Castro, C.,. "An overview of forecast analysis with ARIMA models during the COVID-19 pandemic: Methodology and case study in Brazil." *Mathematics*, 11(14), 2023: p.3069.

Peirong, P. and Al-Tabbaa, O.,. "The effect of the Chinese government policies on outward foreign direct investment by domestic enterprises: A policy analysis." *Strategic Change*, 30(6), 2021: pp.561-572.

Reddy, E.U.,. "High Net Worth Individual Investors: The Influencing Power and Position in Equity Markets." *CVR Journal of Science and Technology*, 20(1), 2021: pp.156-160.

Ro, H.Y.,. "Protection from foreign direct investment: domestic producers, market structure, and mode of entry." Doctoral dissertation, 2021.

Sardar, I., Akbar, M.A., Leiva, V., Alsanad, A. and Mishra, P.,. "Machine learning and automatic ARIMA/Prophet models-based forecasting of COVID-19: Methodology, evaluation, and case study in SAARC countries." *Stochastic Environmental Research and Risk Assessment*, 37(1), 2023: pp.345-359.

Saroy, R., Khobragade, A., Mishra, R., Awasthy, S. and Dal, S.,. "What drives startup fundraising in India. ." *Reserve Bank of India Bulletin*, LXXVII, , 2023: pp.71-90.

Saura, J.R., Reyes-Menéndez, A., deMatos, N. and Correia, M.B.,. " Identifying startups business opportunities from ugc on twitter chatting: An exploratory analysis. ." *Journal of Theoretical and Applied Electronic Commerce Research*, 16(6),, 2021: pp.1929-1944.

Senadheera, J.R., Madushanka, M.K.P. and Gunathilake, H.R.W.P.,. "Integrated Approach for Asset Price Forecasting via Prophet Model and Optimizing Investment Strategies through Genetic Algorithms." 2024.

Shabbir, M.S., Bashir, M., Abbasi, H.M., Yahya, G. and Abbasi, B.A.,. "Effect of domestic and foreign private investment on economic growth of Pakistan." *Transnational Corporations Review*, 13(4),, 2021: pp.437-449.

Sindakis, S. and Showkat, G.,. "The digital revolution in India: bridging the gap in rural technology adoption." *Journal of Innovation and Entrepreneurship*, 13(1),, 2024: p.29.

Singh, V.K.,. "Policy and regulatory changes for a successful startup revolution: Experiences from the startup action plan in India." In *Investment in Startups and Small Business Financing*, 2021: pp. 33-67.

Sletli, V.,. "Digital and sustainable: Business ecosystem, digital platforms, and big data in the Norwegian livestock farming and food-producing industries." In *The Palgrave Handbook of Sustainable Digitalization for Business, Industry, and Society*, Cham: Springer International Publishing, 2024: pp. 43-62.

Šterc, A.,. "Limited Consideration in the Investment Fund Choice." *CERGE-EI Working Paper Series*, (729), 2023.

Subrahmanya, M.B.,. *Entrepreneurial ecosystems for tech start-ups in India: Evolution, structure and role* (Vol. 1). Walter de Gruyter GmbH & Co KG, 2021.

Tripathi, A.R.,. "Does Higher Startup Intention Leads to Higher Growth Performance? An Analysis into Factors Impacting Growth Performance of Indian Startups. ." *Journal of Economics, Innovative Management and Entrepreneurship*, 2(2). 2024.

Tsui, A.P. and Wong, W.K. eds.,. *Transformational HRM Practices for Hong Kong*. Hong Kong University Press, 2020.

Wang, L., Feng, X. and Zang, L.,. "Does risk perception influence individual investors' crowdfunding investment decision-making behavior in the metaverse tourism?" *Finance Research Letters*, 62,, 2024: p.105168.

Wang, Q.S., Lai, S. and Anderson, H.D.,. "VC fund preferences and exits of individual investors." *Pacific-Basin Finance Journal*, 67, 2021: p.101537.

Wayne, M.L. and Castro, D.,. "SVOD global expansion in cross-national comparative perspective: Netflix in Israel and Spain." *Television & new media*, 22(8), 2021: pp.896-913.

Weng, Z., Fan, F., Yang, B. and Zhang, H.,. "Regional differences and drivers of patent transfer-in between Chinese cities: a city absorptive capacity perspective." *Technology Analysis & Strategic Management*, 36(12),, 2024: pp.4113-4127.

Yang, S. and Cui, J.,. "Modeling Investment Choice Preference of Government Venture Capital Guiding Funds." *Discrete Dynamics in Nature and Society*, 2021(1), 2021: p.5244937.

Zhan, J.X. and Santos-Paulino, A.U.,. "Investing in the Sustainable Development Goals: Mobilization, channeling, and impact." *Journal of International Business Policy*, 4(1), , 2021: p.166.

Zhao, D., Zhang, R., Zhang, H. and He, S.,. "Prediction of global omicron pandemic using ARIMA, MLR, and Prophet models." *Scientific Reports*, 12(1), 2022: p.18138.