

Pitch Path: A Unified Digital Platform Connecting Startup Founders, Mentors, and Investors for Collaborative Growth

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ABSTRACT

Entrepreneurship is a vital driver of economic development, yet startup founders often face barriers that hinder growth, including limited mentorship, poor investor access, and unstructured collaboration. This paper introduces Pitch Path, a digital platform that bridges these gaps by connecting startup founders, mentors, and investors in a unified ecosystem. The system provides secure pitch submission, mentor feedback, and investor recommendations through a transparent, data-driven workflow. Incorporating insights from prior studies on startup ecosystems and digital accelerators, this research explores the technical architecture, objectives, and implementation of Pitch Path. The paper also discusses workflow design, backend processing, and testing outcomes, showing how such systems can improve collaboration efficiency and innovation sustainability.

KEYWORDS: *Entrepreneurship, Startup Ecosystem, Mentorship Platforms, Investment Matching, Innovation Networks, Digital Collaboration.*

INTRODUCTION

Startups act as key drivers of technological innovation, economic diversification, and employment generation in both developed and emerging economies. Essentially, they contribute to regional development through their roles in introducing new technologies,

creating job opportunities, and enhancing competitiveness across industries. However, early-stage entrepreneurs face several challenges related to growth and sustainability, including limited access to quality mentorship, insufficient investor visibility, and the absence of collaborative platforms that support continuous learning and feedback.

These limitations often cause promising ideas to fail before reaching scalability. Existing platforms such as AngelList, F6S, and Crunchbase primarily focus on funding visibility and basic matchmaking, offering limited structured mentorship and progress tracking. Another major concern is intellectual property protection, as many founders hesitate to share ideas due to data security risks.

To address these issues, this paper proposes Pitch Path, an integrated digital platform that unifies startup founders, mentors, and investors within a secure and transparent ecosystem. The platform transforms entrepreneurial networking into a structured, data-driven process. Founders can pitch ideas, receive expert mentorship, and connect with potential investors, while plagiarism detection and NDA-based security mechanisms ensure originality and confidentiality [2,4,5,7,8].

LITERATURE REVIEW

Digital entrepreneurship ecosystems have grown into interconnected networks that foster innovation through collaboration and digital connectivity. According to Kantis and Federico [2], Entrepreneurial ecosystems function as dynamic systems made up of founders, investors, and mentors who collectively create value through trust, cooperation, and shared knowledge. Dalle et al. [1] further demonstrated that accelerator-driven programs strengthen the links between investors and startups by using data-driven tools, leading to greater efficiency in funding and engagement. Harima [7] examined public accelerator initiatives and found that they help democratize access to mentorship—especially in developing economies where private accelerator programs are less common. In the same vein, Ester [10] highlighted that diverse mentorship environments, such as those found in Silicon Valley, play a key role in promoting ongoing innovation and enhancing founder resilience. Jurgelevicius and Raisiene [8] discovered that university-led entrepreneurial ecosystems improve founders' confidence, strategic thinking, and innovation outcomes through structured digital mentorship. Similarly, Coelsch [6] explored the idea of venture studios that combine mentorship, funding, and

technical development within a unified framework, aligning closely with the goals of Pitch Path. Bachtiar et al. [5] studied urban startup ecosystems and found that digital mentorship tools greatly enhance talent development and the survival rate of early-stage startups. Sharma et al. [4] observed that venture capital networks supported by online innovation platforms facilitate transparent and effective collaboration between investors and entrepreneurs. Kim et al. [9] introduced AI-powered incubator models that use analytics to match mentors, investors, and founders, illustrating how intelligent digital ecosystems can transform entrepreneurial support structures. Loganathan [11] examined startup–corporate collaboration and highlighted its mutually beneficial impact on innovation-focused ecosystems. Finally, Cinque [12] explored how digital transformation strategies are driving the development of local entrepreneurial ecosystems in emerging markets. Collectively, these studies emphasise the growing importance of platforms like Pitch Path, which brings together mentorship, collaboration, and funding within a single secure digital environment—enhancing innovation, strengthening connectivity, and improving startup sustainability.

PROPOSED SYSTEM: PITCH PATH PLATFORM

1. System Overview

The Pitch Path aims to simplify, streamline, and secure startup–mentor–investor collaboration through a digital, data-driven approach. The platform provides a unified environment in which founders, mentors, and investors can interact transparently to foster entrepreneurial growth and innovation. Each user begins by registering and selecting their or their respective role—founder, mentor, or investor—allowing for a customized experience based on their or her goals and expertise. For founders, the system offers a comprehensive interface to create detailed project profiles that include startup descriptions, team credentials, prototype information, funding requirements, and business models. This structured data collection ensures that investors and mentors can assess the viability of a project more effectively. Founders can also upload documents, such as business plans and pitch decks, which are securely stored and accessible to verified users only. To maintain originality and authenticity, the platform employs a plagiarism checker that verifies submitted content against global repositories. Additionally, founders are prompted to digitally sign Non-Disclosure Agreements (NDAs) before sharing sensitive business ideas, safeguarding intellectual property and reducing risks of data leakage. Mentors play a pivotal role in this ecosystem by providing structured feedback, guidance, and domain-specific insights. They can evaluate startup pitches, rate proposals, and track the

progress of founders over time. To encourage active participation, mentors are rewarded through a ranking-based system incentive system, where consistent engagement and quality feedback contribute to visibility and credibility within the community. This gamified mentorship model helps sustain long-term mentor involvement, similar to models identified in digital accelerator ecosystems [7], [10]. Investors, on the other hand, can review a curated portfolio of startup projects tailored to their interests, funding capacity, and sectoral preferences. They can express interest in specific startups, initiate private communication, and evaluate business potential based on real-time engagement metrics and mentor reviews. The inclusion of transparent feedback loops ensures that investors can make informed, low-risk decisions while identifying high-potential startups, aligning with the principles of digital venture ecosystems [4], [6]. Overall, Pitch Path acts as a virtual incubator by integrating mentorship, funding discovery, and intellectual property protection within a single interface. The combination of AI-driven recommendation systems (for mentor–investor–startup matching), secure authentication mechanisms, and user engagement analytics ensure scalability, inclusivity, and sustainability in the entrepreneurial process. This holistic approach enables startups to accelerate their growth trajectory while maintaining trust and transparency within the innovation ecosystem [5], [8].

2. Objectives of the System

- Provide an accessible digital platform for startups to pitch ideas
- Enable structured mentorship and expert guidance
- Recommend suitable investors based on interest and domain
- Track engagement using feedback and interaction metrics
- Protect intellectual property through NDA-based security
- Encourage mentor participation through ranking systems

3. Technology Stack

Pitch Path employs a full-stack architecture using modern web technologies. The front end uses HTML, CSS, JavaScript, and React.js for dynamic interfaces. The back end is built with Node.js and Express.js, supported by Firebase Firestore or MySQL for data storage. Firebase Authentication and JWT tokens manage security, while AWS ensures scalability. Tools such as Visual Studio Code, Postman, and GitHub help with development and version control. This technology stack provides a robust, modular foundation for scalability and maintenance.

4. System Workflow

As shown in Fig. 1, the platform workflow begins with user registration, followed by pitch submission, mentorship engagement, and investor discovery.

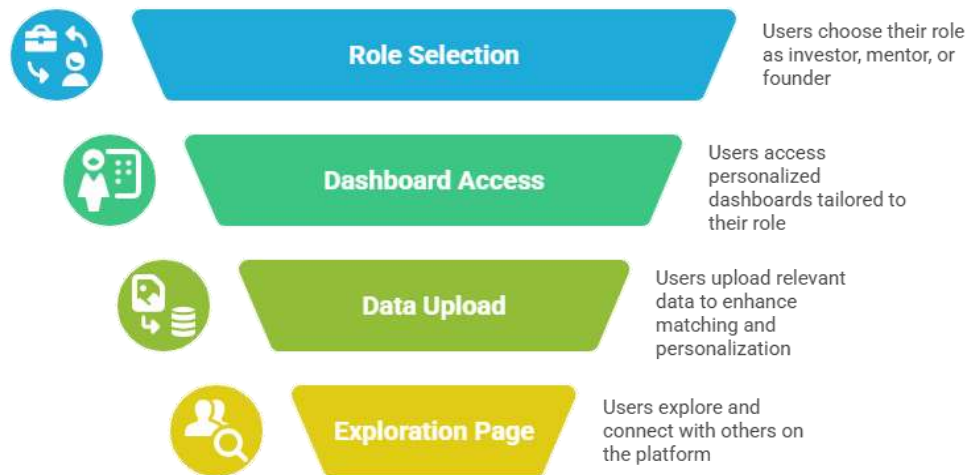


Figure 1: Workflow of the Pitch Path platform showing role selection, dashboard access, data upload, and exploration

5. System Process Cycle

In the backend, the platform validates user data, executes matchmaking logic, and maintains secure records. As shown In Fig. 2, this process cycle includes authentication, data validation, feedback analysis, and matchmaking between mentors, startups, and investors.

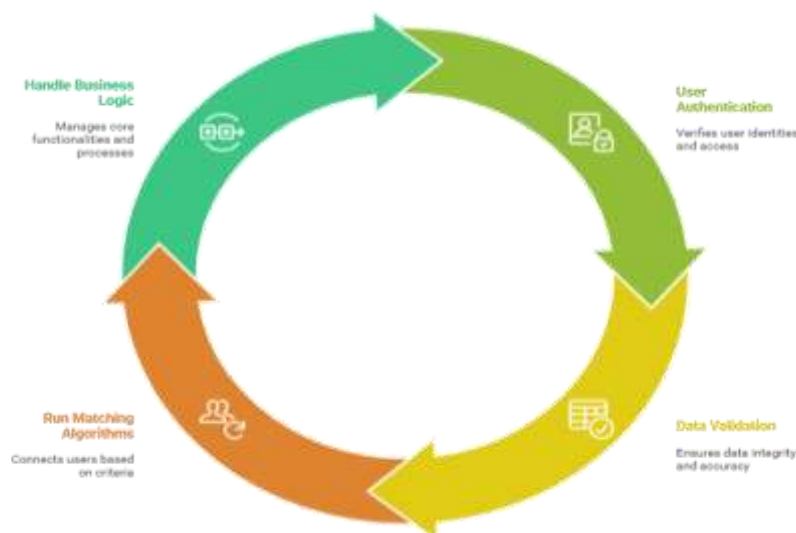


Figure 2: System process cycle illustrating authentication, data validation, matching, and business logic handling

RESULTS AND DISCUSSION

The Pitch Path platform effectively brings together the essential functions of idea pitching, mentorship, and investment discovery within a single system. During the implementation phase, each module was individually tested to assess its performance and reliability. The authentication and data management components consistently maintained high accuracy in verifying user information, while the mentorship feedback and investor engagement modules enabled smooth collaboration through structured and well-defined workflows. The platform also proved to be both scalable and responsive under multi-user environments, making it well suited for real-time interactions within entrepreneurial networks. Feedback from pilot users revealed that the structured mentorship process and transparent feedback mechanisms significantly enhanced overall satisfaction. When compared to traditional accelerator programs, Pitch Path minimises friction by digitising connections and creating an integrated communication environment that simplifies engagement between founders, mentors, and investors [5], [14].

CONCLUSION

This research introduced Pitch Path, an integrated digital platform that brings together startup founders, mentors, and investors into one collaborative ecosystem. The platform tackles key challenges faced by early-stage entrepreneurs by offering structured mentorship, transparent investment opportunities, and secure communication among stakeholders. Through the integration of digital tools such as authentication systems, data validation, plagiarism detection, and NDA-based protection, Pitch Path fosters a trustworthy and transparent environment for sharing and developing innovative ideas. The system's architecture is designed for modularity, scalability, and interoperability, allowing it to adapt to various startup ecosystems. Features like mentor ranking, investor dashboards, and engagement analytics enhance accountability, enable performance tracking, and build trust across the entrepreneurial community. These elements collectively encourage sustained collaboration between founders and ecosystem enablers, cultivating a culture of continuous innovation [2], [5], [7]. In addition, the implementation of Pitch Path illustrates how digital technologies can be leveraged to democratize access to mentorship and investment capital. The inclusion of gamified mentor incentives and structured evaluation metrics aligns with modern accelerator models that prioritize measurable engagement and data-driven mentorship [8], [10]. By facilitating structured digital collaboration, the platform empowers startups while equipping mentors and investors with

efficient decisionmaking tools, ultimately improving ecosystem performance and reducing operational inefficiencies [4], [6]. Looking ahead, future enhancements will focus on integrating artificial intelligence (AI) to deliver personalized mentor–investor–startup matching, blockchain technology to ensure transparent transaction verification, and advanced analytics dashboards for data-driven insights. These innovations will strengthen digital entrepreneurship ecosystems worldwide, enabling more ethical, informed, and efficient innovation processes [9], [11]. Overall, Pitch Path exemplifies how technology-enabled collaboration can drive inclusive economic growth by connecting emerging entrepreneurs with institutional resources, laying the groundwork for a resilient and sustainable generation of startups.

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