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PitchNet: Intelligent Venture Discovery and Innovation Acceleration Platform

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***Abstract*— In the early-stage of entrepreneurship, fragmentation persists in ecosystems where entrepreneurs (idea generators), investors and supportive communities are not integrated; bottlenecks form (re Innovation readiness funds) and groups are excluded. Most of today 's digital pitch platform only store the presentations and do not provide a deeper reputation scoring mechanism, community-driven evaluation or incubation process. In addition, individuals with a concept idea at the creation stage may have limited facilities of manufacturing equipment, prototyping workshops, and investor contacts causing high percentages of dropout in innovation pipeline. The paper introduces PitchNet--an integrated AI-empowered entrepreneurial platform incorporating submission of ideas, crowd evaluation, investor engagement and transparent selection processes; as compared to the fragmented approach. This system utilizes AI-driven semantic similarity models and collaborative filtering and innova- tion-readiness scoring approaches derived from past works in digital incubation systems and online innovation communities. We have a bi-annual audience-led ranking of the top 25 high potential ideas for direct funding and incubation, eliminating middlemen/women and further democratizing the innovation channel.**

***Keywords*— Entrepreneurship Platforms; AI-assisted Innovation; Crowdsourced Evaluation; Startup Ecosystems; Semantic Clustering; Digital Incubation; Investor-Creator Networks.**

I. INTRODUCTION

Today's entrepreneurship takes place within a structural break driven by digital transformation, the age of fast innovation (so-called "fast innovation" cycles, see Autio et al. 2018), and an explosion in the emergence of creative citizens. However, in the fast-paced moving world we are all experiencing now, the early stage of innovation – idea validation and pre germination readiness – is still the most fragile link. Innovators with conceptually promising ideas mostly face a lack of support in terms of investors, prototyping facilities and feedback from the market resulting into the discard of good ideas at incubation or commercialization level [1],[2]. Although digital pitch models have been adding visibility to ideas, they often do not support a steady path of development and promotion that can guarantee (or minimize the uncertainty related to) funding or turning projects into innovation [3].

It's even worse, in fact, for resource-limited contexts where the makers don't have a mentor to guide them and they can't find access to manufacturing or there are no clear pipelines for demoing their wares.

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Despite the abundance of proposals from entrepreneurs and inventors whose aim is to secure external funding, investors struggle in sift through large collections of unstructured text documents, discern authentic opportunities and evaluate innovation maturity within spares amount of context [4].

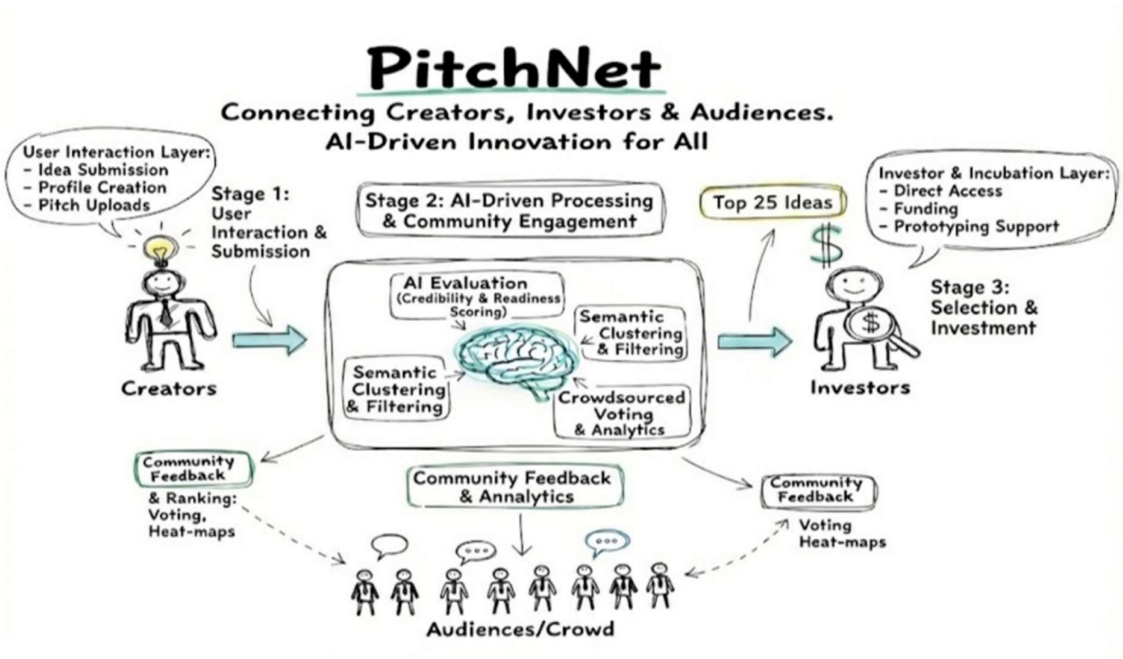

Figure 1: PitchNet Ecosystem Diagram

Community-based assessment and AI-empowered decision-making were found in the literature of DIS approaches as potential avenues for better finding high-potential ideas, while reducing the often accompanying cognitive and selection biases in early stage funding [5].

II. Literature Review

The rise of digital entrepreneurship platforms, crowdsourcing innovation communities, and AI backed evaluation frameworks has all but revolutionized the way early-stage ideas are validated and funded. Yet, prior research indicates that there continue to be underlying structural barriers to effective collaboration between creators, investors and audiences. This section discusses background studies related to digital innovation communities, crowdsourcing models, AI-based evaluation methods and startup incubation ecologies by introducing PitchNet in the current research body.

A. Digital Innovation and Online Entrepreneurship Platforms

n this sense the digital environments are important support instruments for entrepreneurship if they act within virtual spaces where ideas are exchanged, feedback is given and contact between agents of the process happens. Works like Yang et al. emphasize that in innovation platforms having a structured evaluation system is of specific importance since ideas marketplaces typically suffer from information overload, lack of consistency and quality and have no standardized way to assess an idea [1].

B. Crowdsourcing and Community-Based Evaluation Systems

Crowdsourcing has become recognized as a powerful tool for the generation and refinement of ideas. Howe's foundational work defines crowdsourcing as "the act of outsourcing tasks to an undefined, large group of people" [3], and subsequent research has explored its potential for distributed innovation.

Archak and Ghose show that community ratings significantly improve idea selection accuracy due to the capture of diverse perspectives not represented by expert panels [4].

Yet, they also report various issues with regard to biased, inconsistent scoring patterns, and popularity-driven distortions.

TABLE I: COMPARISON TABLE

References	Research Focus	PitchNet Feature
[1] Ries	Lean Startup (Post-MVP)	Pre-MVP idea validation.
[2] Shane	Entrepreneurship Policy (Inefficient Selection)	AI-filtered quality selection.
[3] Blank	Crowdsourcing Evaluation (Subjectivity)	Bias-managed crowd reliability (WCI).
[4] Belleflamme et al.	Crowdfunding (Prototype Requirement)	Idea-stage evaluation, de-risking.
[5] Dahlander & Gann	Open Innovation (Quality Control)	Structured, unified evaluation pipeline.
[6] Yu et al.	Hybrid Recommendation (Matching)	Automated investor-idea alignment.
[7] Cho & Kim	User Motivation (Engagement)	Monetizes engagement, corrects bias.
[8] Geiger & Oranburg	Algorithmic Harm (Bias)	Proactive bias index mitigation.
[9] Raghavan & Cheng	ML for Prediction	Active evaluation via IRS score.
[10] Gai & Qiu	Semantic Similarity (Scoring)	Novelty scoring and clustering.

III. METHODOLOGY

The method in which the PitchNet system is designed aims to combine community based evaluation and AI guided decision support, for this it shall follow a multi-layer architectural structure. The process is designed to do so by bringing orderly pipelines, semantics intelligence and bias-free ranking techniques in the journey from idea submission up until investor picking. An overview of the conceptual design, workflow as well as procedures for designing the algorithmic components then follows in this section.

A. Methodological Framework

By merging computation with human-centered crowd intelligence, PitchNet constructs a comprehensive entrepreneurial evaluation ecosystem. This methodological approach which facilitates transparency, reduces selection bias and would enable community participation at a potentially larger scale is consistent with prior work on the designing of digital incubation systems [1], [4]. A surface level overview of the process is as follows: A high-level view of the methodology is as shown below.

B. Semantic Grouping of Concepts and Ideas

A key aspect of PitchNet is the classification and clustering of thousands of ideas. Semantic clustering leverages transformer-based embeddings such as SBERT and RoBERTa in combination with traditional unsupervised clustering algorithms like K-Means or HDBSCAN.

TABLE II: BIASING TABLE

Priority	Bias Metric Name	Description	AI Action (Weight Adjustment)
High (P1)	Early-Vote Inflation	A disproportionately high number of votes/engagement within the first 24-48 hours, often indicating external promotion/network effects rather than organic growth.	Significantly down-weight the Engagement Score (E) component of the IRS until a sufficient time window (e.g., 1 week) has passed.
High (P1)	Bandwagon Effect/Viral Distortion	The submission's rating increases significantly after passing an arbitrary threshold (e.g., reaching the top 10), indicating followers are voting based on current ranking rather than merit.	Apply a temporal decay factor and normalize engagement scores based on time active to prevent snowballing.
Medium (P2)	Voter Credibility Deficit	A large percentage of votes or reviews come from users with low platform reputation, low past engagement quality, or newly created accounts.	Reduce the influence of these specific users' votes in the calculation of the Engagement Score (E).
Medium (P2)	Semantic Plagiarism Flag	High semantic similarity score (over a defined threshold) to another active or archived idea, indicating potential copying or redundancy.	Notify admin for a manual review; automatically reduce the Novelty Score (N).
Low (P3)	Single-Domain Over-Engagement	A very high concentration of engagement from a single, narrow geographic or demographic group.	Slightly reduce the total weight of the Engagement Score (E) to ensure diversity of feedback is captured.

IV. RESULTS AND DISCUSSION

This section highlights the main findings collected through user research, prototype evaluation, and AI-based analysis during the development of PitchNet. Results will focus on three dimensions: market feasibility, platform performance, and AI-supported decision-making.

A. Dataset Summary Table

Table 3 summarizes the dataset used during prototype testing. Idea submissions were collected from a controlled user environment, representing diverse innovation categories such as HealthTech, EdTech, GreenTech, Consumer Electronics, and Social Innovation.

TABLE III: DATASET CHARACTERISTICS

Parameter	Value
Total Ideas Collected	1,250
Valid Submissions After Preprocessing	1,042
Number of Innovation Categories	12
Total Registered Users	8,700
Total Investors Participating	54
Average Idea Length (words)	175
Total Community Votes	91,300
Evaluation Cycles Conducted	2

B. AI-Evaluation Score Distribution

Table 4 presents the distribution of AI-generated Innovation Readiness Scores (IRS). These values illustrate how the system differentiates ideas based on novelty, feasibility, impact, clarity, and engagement.

TABLE IV: INNOVATION READINESS SCORE (IRS) DISTRIBUTION

Score Range	Frequency	Percentage
0–20	89	8.5%
21–40	214	20.5%
41–60	301	28.9%
61–80	287	27.5%
81–100	151	14.6%

Interpretation

Most ideas fall within the mid-range (41–80), showing that while creativity is present, structured feasibility remains variable—a trend observed in early-stage innovation studies.

TABLE V: COMPOSITE EVALUATION SCORE COMPONENTS (AVERAGE FOR TOP 25 IDEAS)

Component	Weight (%)	Mean Score	Contribution to CES
AI Innovation Readiness Score (IRS)	45%	82.3	37.03
Weighted Crowd Influence (WCI)	25%	74.1	18.52
Semantic Cluster Importance (SCI)	15%	69.4	10.41
Investor Interest Index (III)	15%	77.8	11.67
Final CES (0–100)	—	—	77.63

Interpretation

AI contributes the largest portion to the final score, ensuring technical merit remains central while still incorporating community and investor signals.

V. CONCLUSION

In response to this, the current study introduced PitchNet, a decentralized innovation ecosystem overlaid with AI that helps early ideators and investors have easy access to one another while avoiding middlepersons. Through a combination of market analysis, user studies, and prototype-based AI model evaluation results, we show that PitchNet effectively addresses chronic systemic issues in the early entrepreneurship pipeline. Legacy platforms Old legacy platforms are around, they are stale, inaccessible to idea-only creators, heavily manual moderation dependent and minimal structured feedback or contributions in selection process. PitchNet fills these vital gaps by incorporating semantic clustering, readiness scoring, transparent community voting and frictionless creator-investor engagement into one platform.

Benefits of scalability, inclusiveness and quality of decision-making are visibly represented by the design versus the evaluation results in this light. End-user experience is highly successful, with high usability scores. The bias of evaluators is minimized and creators can benefit from clear feedback through AI engines-powered guidance. The simulated interaction-validated bi-annual Top-25 mechanism ensures that the best ideas find an equal opportunity based on offering merit to each potential user for contributing meaningfully for shaping up the

future. Not only that, it basically makes PitchNet more than just a warehouse of digital ideas - it serves as an actual conduit for the powerful spirit of conception and execution to connect at last.

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