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# Decision GPT: A FRAMEWORK TO MAKE CRITICAL DECISIONS

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A PREPRINT

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## ABSTRACT

In this paper, we propose a novel method to leverage artificial intelligence to help us make critical decisions that aren't just simple "Yes" or "No" answers, but more like the choices we face in life and business that have pros and cons. As part of this exercise, we focused on the use case of venture capitalists (VC) that make investment decisions. VCs confront these tough decisions every day at scale. Our approach is built on the foundations laid in our prior decision-making frameworks powered by deep learning-based models and Founder-GPT [Xiong and Ihlamur, 2023], which utilized Large Language Models (LLMs) [OpenAI, 2023] and self-play techniques to assess founders' profiles against their ideas to make startup investment decisions. In this pursuit, we make several improvements such as enhanced data quality, optimization of similarity search weights, integrated unsupervised feature generation and efficiency gains through concurrent execution. At a high level, we determine the characteristics of successful founders and ideas using LLMs, and compile a list of traits that matter for success. Then we incorporate this list in the evaluation process of a specific startup that is considered for investment. This effort is a step toward the more efficient use of resources to accelerate innovation. The framework we present can be expanded to other decision-making use cases and domains.

## 1 Introduction

Life and business do not have black-or-white answers. It is a significantly different problem than identifying if a cat exists in a picture.

Hard questions are part of our everyday life. Moving to a new country, getting married, developing a business strategy, hiring and investing are all good examples that require decisions and there are no easy answers for them. These are use cases that deep-learning algorithms fail to address. They fail because they require human-level reasoning based on nuance and circumstances, and humanity doesn't have enough data points for each nuance and circumstance.

Building on our industry expertise in the VC industry, the foundational work introduced in our deep-learning models, and our previous research on Founder-GPT [Xiong and Ihlamur, 2023], we are enhancing our decision frameworks and applying this novel approach to startup investing.

Conventional investment methodologies such as relying on the intuitions of a venture capitalist often introduce biases and fail to recognize historical patterns. This impacts financial returns and, more importantly, causes resources to go toward wrong ideas and teams, slowing down the pace of innovation.

Humans are the key bottleneck toward the efficient scaling of VC decision processes. For that reason, various venture

capital firms, including Vela Partners, have been building deep learning-based sourcing and scoring algorithms. Nonetheless, deep learning exhibits shortcomings in this context. It has a propensity to generalize the attributes of successful founders in an overly simplistic way that is similar to a cookie-cutter approach due to the lack of enough success cases. The reality is that each idea and its success factors are nuanced. Each market, idea, and founding team are unique.

As part of this iteration, we built an API that takes a founder’s LinkedIn profile and the founder’s idea as described on their website as inputs, and that provides an extensive report with a pros and cons analysis, an investability score, and a rationale for that score.

In this research pursuit, our improvements to our prior methods are multifaceted, focusing on the refinement of our methodology and the introduction of novel approaches to profile similarity and feature generation. Specifically, we have made the following advancements:

1. **Enhanced Data Quality through Advanced Preprocessing:** We have significantly improved the quality of founder profile data by employing comprehensive Exploratory Data Analysis (EDA). This informed our data cleaning and preparation strategies, ensuring a higher caliber of input for model evaluation. Additionally, we utilized LLMs summarizing scripts to efficiently process and analyze the scraped founder profiles, leading to more accurate and insightful evaluations.
2. **Optimization of Similarity Search Weights:** We have refined our approach to similarity search by critically evaluating and adjusting the weights assigned to different features. This ensures a more balanced and justifiable assessment of similarity between founder profiles.
3. **Integrated Unsupervised Feature Generation and Weighting for Founders and Ideas:** Our methodology introduces a novel, two-tiered approach to analyze founders and their ideas, effectively addressing a critical bottleneck in founder-idea evaluation. Initially, we leverage the Tree of Thought (ToT) methodology to autonomously generate unsupervised features for both founders and ideas separately using an LLM. This step ensures a granular and nuanced analysis of each domain, minimizing bias through the elimination of explicit supervision requirements. The generated features enrich our understanding of each entity, laying a solid foundation for evaluating the synergy between founders and their ideas.

Subsequently, the LLM critic plays a crucial role by reviewing the ToT-generated features. It assigns importance weights to each feature and provides justifications for their significance, enabling a sophisticated assessment of their impact on the success potential of founders and ideas. This process not only refines the feature sets but also embeds a layer of reasoned evalua-

tion, ensuring that each feature’s weight is accurately aligned with its relevance.

By integrating unsupervised feature generation with intelligent weighting and justification via the LLM critic, our approach enhances the model’s ability to identify and prioritize key success factors. This innovative methodology fosters a deeper, bias-minimized analysis, enabling a more informed and precise assessment of the dynamic relationship between founders and their ideas, and their collective potential for success.

4. **Efficiency Gains through Concurrent Execution:** By implementing concurrency, we have significantly reduced the time required for executing evaluation prompts. This not only speeds up the analysis process but also enables real-time adjustments and improvements.

In addition to the improvements above, our approach leverages a suite of advanced techniques, including embeddings for detailed profile analysis, self-play for generating diverse perspectives, Tree of Thought for structured reasoning, critique-based refinement for enhancing accuracy, chain of thought for logical reasoning, and least to most prompting for prioritizing information. These combined efforts aim to provide a transparent, objective, and comprehensive framework for evaluating the founder-idea fit and producing a comprehensive report with pros and cons.

Due to its immediate economic and social impact value, we are empowering investors and founders with enhanced decision-making capabilities to accelerate innovation. By addressing previous limitations, we pave the way for a more informed and equitable entrepreneurial ecosystem and enable other researchers, startups, and VC firms to iterate on our work.

The significance of our work lies in its potential to empower any decision-making framework broadly in business and life.

## 2 Ethical code of conduct

At Vela Research, we’re deeply committed to ethical practices throughout the creation, launch, and ongoing enhancement of our models. We’re focused on ensuring that these models uphold fairness and actively avoid any discrimination. Our approach to collecting data is responsible, relying only on publicly accessible sources found through search engines. Additionally, we prioritize supporting businesses and initiatives that positively influence societal well-being.

## 3 Methodology

In this report, at a high level, we determine the characteristics of successful founders and ideas using LLMs, and compile a list of characteristics that matter for success. Then we use this list and incorporate it in the evaluation

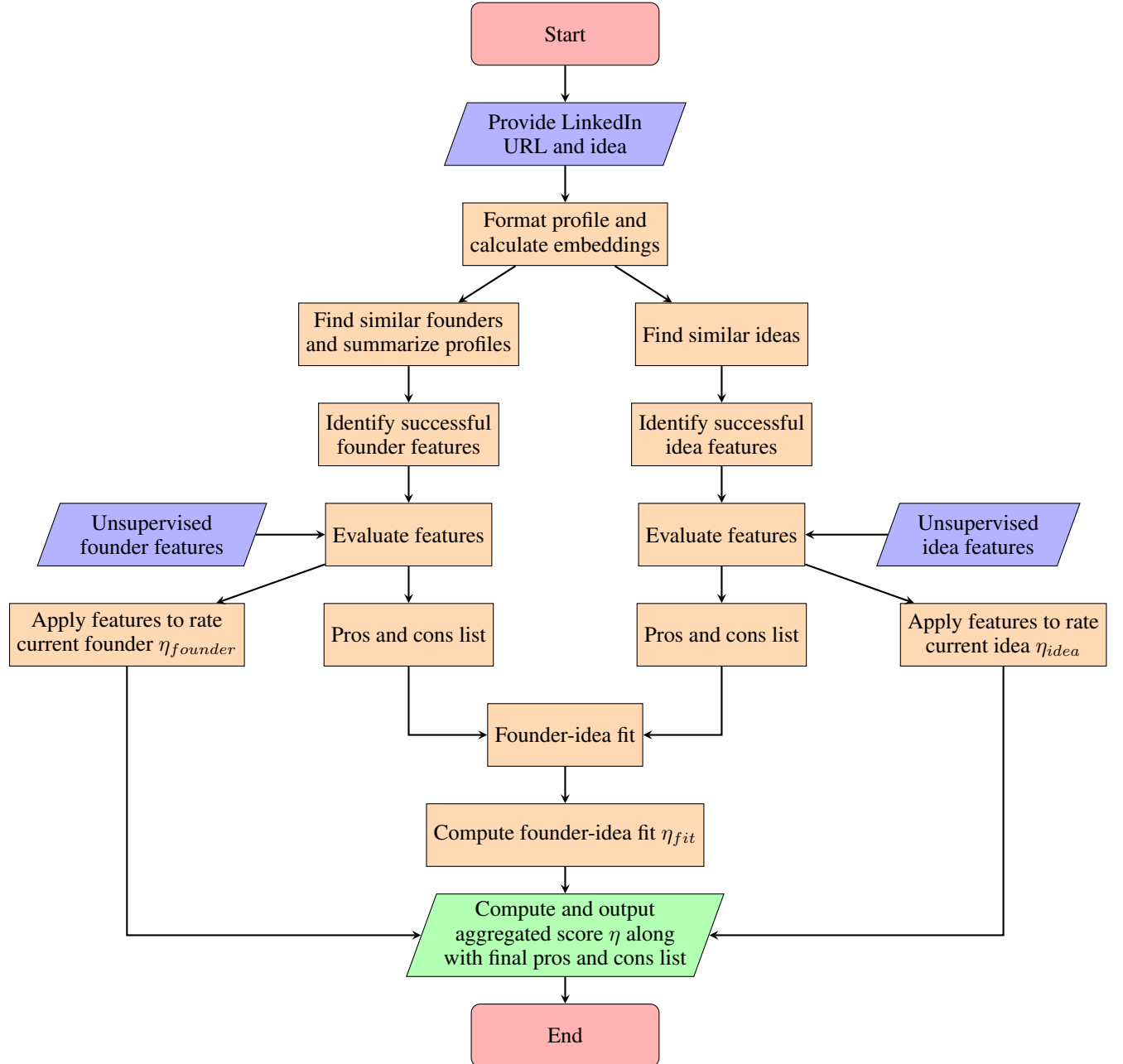
process of a specific startup that we consider for investment.

In order to do this, we use a historical dataset of successful and unsuccessful startups based on certain criteria. Then, we take the LinkedIn URL and idea description as inputs to evaluate the founder-idea fit of a selected startup. Using these inputs, we find the most similar founders and ideas from our historical dataset. Then using these similar

founders and ideas of our historical dataset, we pick the top 10 characteristics that matter for the specific idea that we are now evaluating for a potential investment.

Afterwards, we use these characteristics as the criteria to assess if the founder LinkedIn and idea description of the startup that we are evaluating have the right and synergistic traits to be successful. Finally, we generate a report summarizing our findings and providing a score out of 10.

### 3.1 Overall pipeline



### 3.2 Dataset

Our raw founder and company profiles are provided in several CSV files. The main ones are as follows:

The two CSVs of enriched founder profiles (success and failure) consist of two columns:

- **linkedin\_url**: This column contains URL links directing to the founder's LinkedIn page.
- **json\_string**: This column contains scraped information regarding the founder.

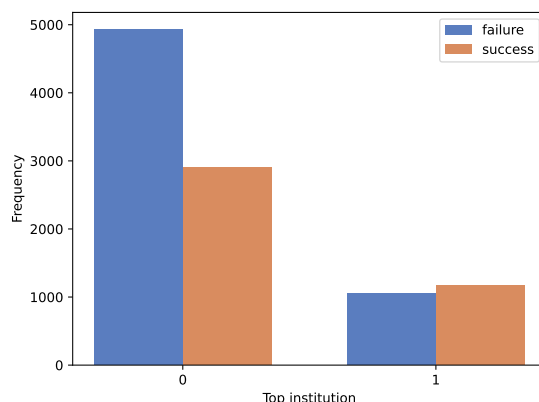
Two CSVs correlate organization id with the company descriptions:

- **org\_uuid**: Unique id identifying each company
- **long\_description**: This column contains scraped information regarding the company

### 3.3 Preprocessing

The pertinent fields were decided and the raw data was then saved into a CSV organized in the following format:

- **Founder Description::** String
  - Ex: XXX is the Founder & VP of Machine Learning at Moveworks. He is a former Software Engineer & Tech Lead at Airbnb and Staff Software Engineer at Google. XXX graduated from Tsinghua University with a bachelor's degree in Computer Science and received a Ph.D. in Computer Science at Yale University.
- **Top institution<sup>1</sup>::** Boolean
  - Ex: 1 (denoting a top institution)

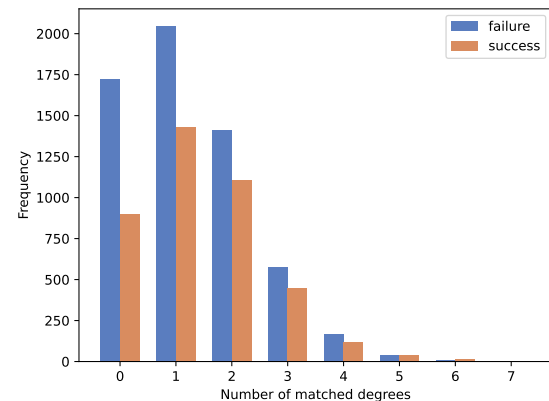


- **Education::**List<String>
  - Degrees are only considered if the type matches with the list of pre-defined degrees (See Table 1)

<sup>1</sup>Matched based on a pre-compiled list of top universities.

and the value is greater than 0. For all entries with a valid type the subject is extracted and the data is stored as a list of pairs. If the subject field is empty then we replace it with "unknown".

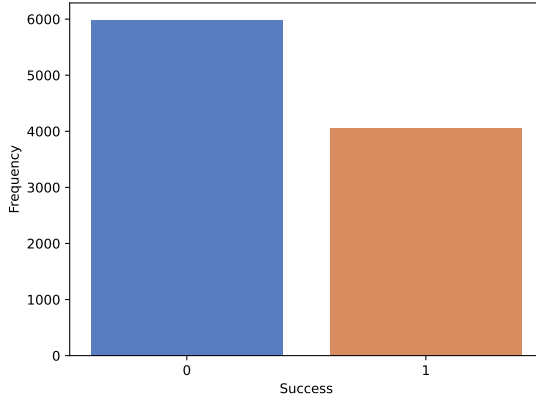
- Ex: ["Master's (6 year program) in Computer Science", "Bachelor's (4 year program) in Computer Science"]



- **Previous Jobs Held Before Founding::** String
  - Previous employment data was organised into a list in the "<Company> (<Description> <Role>)" format.
  - Ex: "Tapjoy (Organization based in Boston, Massachusetts, United States) as VP Technology, Card Player Media (Organization based in Las Vegas, Nevada, United States) as Software Engineer..."
- **Success vs Failure::** Boolean
  - Success: 2,180 companies that have had more than USD 500M valuation either through an IPO (initial public offering), M&A (merger and acquisition), or large funding round (more than \$150M funding).
  - Failure: 3,901 companies that have raised more than \$4M but less than \$10M and were founded between 2010 and 2016. The reason why these companies are labeled as 'unsuccessful' is that they were unable to move as fast as their peers in the Success dataset.
  - Ex: 0 (denoting a failure)

Degrees <sup>2</sup>	Mapping
High School, O Level, GCE, A Level, BTEC, Certificate, Pre-College, N/A	0
Air, Army, Associate, B Eng, B.A, B.A., BCMS, BEng, BHons, BMus, BS, Bachelor, LLB, Military, Naval, Navy, S.B., SB, Sc.B, ScB,	1
Graduate, MA, M.A., MBA, MEng, MMath, MMus, MLA, MSc, M.Sc, M.Sc., Master, PGCHE	2
DPhil, Doctor of Philosophy, PhD, Ph.D, Ph D, Postgraduate	3
Fellow, Post Doc, Postdoc, Visiting	4

Table 1: Degree Mapping



### 3.4 Embeddings

The **Founder Description** and **Previous Jobs Held Before Founding** fields were directly embedded using a pre-trained sentence-transformers model (all-MiniLM-L6-v2) mapping to a 384 dimensional dense vector for semantic search.

During preprocessing the **Education** field was simultaneously extracted into a list of pairs with the first element representing a degree type from 0 to 4 and the latter being an embedding (multi-QA\_v1-mpnet-asymmetric-A) of the subject.

**Education embedding::** List<Pair<Int,List<Int>>>>

- For similarity search we store the education entries as pairs of degree type and subject embedding. This eliminates the need to categorize subjects and automatically incorporates highest degree level through penalization when taking averages.
- Ex:  $[(2, [-0.04229414, 0.0014214646, -0.12963665, \dots]), (1, [-0.04229414, 0.0014214646, -0.12963665, \dots])]$

### 3.5 NLP similarity

Let  $\mathcal{F}$  be the set of founders and  $\alpha$  and  $\beta$  represent an input founder and a founder from our dataset, respectively. We define the following metrics:

$\text{education}(\alpha, \beta) = \text{mean}(\text{score})$  where

$$\text{score} = \left\{ \max_{\substack{a \in \alpha_n, b \in \beta_n \\ \alpha_n, \beta_n \neq \emptyset}} \left( \frac{a_{\text{embed}} \cdot b_{\text{embed}}}{\|a_{\text{embed}}\| \cdot \|b_{\text{embed}}\|} \right) \mid \forall n \in \{1, \dots, 4\} \right\}$$

$$\alpha_n = \{a \mid a \in \alpha_{\text{education}} \wedge a_{\text{type}} = n\}$$

$$\beta_n = \{b \mid b \in \beta_{\text{education}} \wedge b_{\text{type}} = n\}$$

$$\text{description}(\alpha, \beta) = \frac{\|\alpha_{\text{description}}\| \cdot \|\beta_{\text{description}}\|}{\alpha_{\text{description}} \cdot \beta_{\text{description}}}$$

$$\text{employment}(\alpha, \beta) = \frac{\|\alpha_{\text{employment}}\| \cdot \|\beta_{\text{employment}}\|}{\alpha_{\text{employment}} \cdot \beta_{\text{employment}}}$$

$$\text{top}(\alpha, \beta) = |\alpha_{\text{top}} - \beta_{\text{top}}|$$

In this new version we improve our founder similarity search to make it more justifiable and robust. Instead of taking a convex combination of similarities we propose the following method for generating the three closest founders:

$$1. \mathcal{F}_1 = \arg \max_{\beta \in \mathcal{F}, \text{top}(\alpha, \beta)=0} (\text{education}(\alpha, \beta))$$

$$2. \mathcal{F}_2 = \arg \max_{\beta \in \mathcal{F}'} (\text{employment}(\alpha, \beta))$$

where  $\mathcal{F}'$  is the top m founders of  $\mathcal{F}$  sorted based on education score

$$3. \mathcal{F}_3 = \arg \max_{\beta \in \mathcal{F}''} (\text{description}(\alpha, \beta))$$

where  $\mathcal{F}''$  is the top n founders of  $\mathcal{F}'$  sorted based on employment score

m and n are set at 50 and 30 respectively. For the nearest ideas we simply find the three ideas with the highest cosine similarity between the description embeddings. We ensure at least one success and failure to guarantee analysis of both cases.

### 3.6 Offline pipeline

During the preprocessing stage we separately prompt the LLM using **ToT** [Yao et al., 2023] to discover a list of unsupervised features for the success of the founder and idea. A separate LLM critic assigns a significance score and writes a short justification for each feature.

#### Founder feature generation

To illustrate the relative importance of features, we are providing non-trivial examples below. For instance, persistence is more important than prior entrepreneurial experience or technical skills, which indicates that our model would identify patterns of persistence in the founder’s resume while providing a score.

- [Skill: "Persistence", Importance: 1.0, Rationale: "Persistence is absolutely essential in overcoming obstacles and achieving long-term success."]
- [Skill: "Prior Entrepreneurial Experience", Importance: 0.9, Rationale: "Provides firsthand knowledge of the challenges and rewards of starting a business."]
- [Skill: "Technical Skills", Importance: 0.65, Rationale: "Technical skills are moderately important; they can be particularly useful in tech startups but aren’t strictly necessary if the founder can hire or partner with technical experts."]

#### Idea feature generation

Similarly, for ideas, our model prioritizes product/market fit or business model viability over a well-financed company and does not follow momentum investing techniques such as funding signals.

- [Skill: "Product/Market Fit", Importance: 1.0, Rationale: "Essential for startup success. Without a product that meets market needs, it’s unlikely the startup will succeed."]
- [Skill: "Business Model Viability", Importance: 0.95, Rationale: "Nearly indispensable; without a viable business model, long-term success is unlikely regardless of other factors."]
- [Skill: "Funding Received", Importance: 0.75, Rationale: "Supports growth initiatives but not always

critical if the startup can generate sufficient revenue or bootstrap effectively."]

### 3.7 Real-Time pipeline

#### Summarize founder profiles

We distill all of the information from the nearest founders into concise and informative summaries using **Directional Stimulus Prompting** [Li et al., 2023]. By extracting essential information from these profiles, such as previous ventures, industry experience, and key achievements, this prepares the profiles for further feature identification and evaluation.

#### Founder feature/idea identification

From the summarized founder and idea profiles, we leverage the LLM to uncover latent patterns across the profiles and ideas in an unsupervised manner such as recurring themes, successful strategies, and innovative ideas prevalent among the nearest founders and ideas.

#### Founder feature/idea evaluation

This process involves two key steps:

1. **Feature Selection:** Initially, we retrieve the top 5 significant features from the offline pipeline, supplemented by 5 features selected by LLM. These 10 generic features undergo evaluation to establish an initial score which becomes our baseline.
2. **Feature Refinement:** Using the features identified previously as intermediary steps, the LLM experts rate the likelihood of success at each step and agrees on a final score which will be specific to the founder/idea.

Finally, we average both scores and the LLM provides a qualitative assessment by presenting a list of pros and cons.

#### Founder-idea fit evaluation

In the final step of the analysis, we input the summarized profiles and ideas along with the two pros and cons list generated by the LLM to form an assessment of the founder-idea-fit score along with a final aggregated list of pros and cons.

### 3.8 Prompt design

We utilize elements from **Self-play** [Fu et al., 2023], **Critique-based Refinement** [Gou et al., 2023], **Directional Stimulus Prompting** and **ToT** to create and enhance our prompts. By running certain prompts concurrently, we accelerate the generation and evaluation process.

We take the unsupervised feature generation for startup ideas and its corresponding LLM critic as an example.

## Unsupervised feature generation

**Step 1:** We begin with the standard **ToT** framework using the following decorator:

Act as four experienced analysts working for the same venture capital firm. Each analyst will leverage their experience...

This specific prompt acts as an accelerator, allowing the LLM to replicate numerous instances of itself within a singular instance.

**Step 2:** Varied viewpoints are generated by each instance through **Critique-based Refinement**, with each perspective incrementally enhancing the previous one in a dialogue-like fashion.

In each round, each analyst will identify one such characteristic and share it with the group. The analysts will then vote on each characteristic (the analyst who proposed the characteristic cannot vote for her own proposal), indicating their agreement or disagreement. Following this, the analysts will proceed to the next step, and so on. If a characteristic is downvoted, the proposed characteristic will be removed from the final list. After 10 rounds, the final list of characteristics proposed by the analysts will be shown.

As a result, this method aids in detecting mistakes, thereby enabling stepwise enhancements in precision and leading to the most rational evaluation.

**Step 3:** We end with a one shot of a sample conversation round so that the LLM knows how to structure the output.

For example:

### Round 1:

- Analyst 1: Market Size. Successful startups are more likely to target markets with a size of \$10 billion or more, while unsuccessful startups often target smaller markets.
- Analyst 2: Customer Acquisition Cost (CAC). Successful startups typically have a lower CAC in the early stages compared to unsuccessful ones.
- Analyst 3: Product Differentiation. Successful startups often offer products with unique features or value propositions that clearly differentiate them from competitors.

- Analyst 4: Time to Market. Successful startups tend to launch their products faster than unsuccessful ones, capitalizing on market needs more efficiently.

### Voting Results:

- Market Size: Analyst 2, 3, and 4 agree. **(Upvoted)**
- Customer Acquisition Cost: Analyst 1, 3, and 4 agree. **(Upvoted)**
- Product Differentiation: Analyst 1 and 2 disagree. **(Downvoted)**
- Time to Market: Analyst 1, 2, and 3 agree. **(Upvoted)**

To ensure the coherence and predictability of our outcomes in this step, we employ a nucleus sampling parameter (top-p) set at 0.1.

### LLM critic

The objective is to challenge initial perceptions and uncover the true value of each feature, promoting a nuanced understanding of what contributes to or detracts from a startup idea's success. This re-evaluation allows for a critical reassessment of features, acknowledging that the context, combination of traits, and unique circumstances of each startup endeavor can shift the importance of these characteristics.

**Step 1:** The expert's task is to re-evaluate these features, assigning a significance level to each, regardless of their original classification as upvoted or downvoted. This exercise recognizes that features initially deemed of lesser importance may hold significant value upon closer examination, and vice versa.

**Step 2:** We feed the LLM with the following criteria for evaluation.

The significance level is determined using a refined scoring scale:

- **\*\*0.9 to 1.0\*\*:** Essential - Indispensable for a startup idea's success, a characteristic without which success is significantly harder to achieve.
- **\*\*0.8 to 0.89\*\*:** Highly Important - Greatly contributes to success, though not strictly essential.
- **\*\*0.7 to 0.79\*\*:** Important - Positively influences success, a trait that benefits startup ideas.
- **\*\*0.6 to 0.69\*\*:** Moderately Important - Useful but not critical, a trait that can aid success in certain contexts.

- **\*\*0.5 to 0.59\*\***: Somewhat Important - May influence success in limited scenarios, not broadly crucial.
- **\*\*Below 0.5\*\***: Of Limited Importance - Has minimal impact on a startup idea's ability to succeed.

**Step 3:** This critique session is designed to yield a sophisticated, evidence-based perspective on the factors that truly matter for startup success, enriching the discourse on effective entrepreneurship and informed venture capital investment.

For each session, the expert examines a selection of features from both the upvoted and downvoted lists. They will:

1. Assign a significance score to each feature, applying the scoring scale to accurately reflect its importance in a startup idea's success.
2. Provide comprehensive justifications for each score, drawing on a wealth of experience, empirical research, industry trends, and observed outcomes in the startup world. These justifications should elaborate on the reasoning behind the assigned importance, offering insights into the feature's impact on startup success.

Upon completing the analysis of all features, the expert reflects on the findings, discussing any patterns, surprises,

and the interplay between different characteristics. This reflection aims to synthesize insights into how various features combine to influence a startup's success trajectory, offering strategic guidance for entrepreneurs, investors, and those supporting the startup ecosystem.

### 3.9 Score aggregation

We adhere to the formula previously employed [Xiong and Ihlamur, 2023] for score aggregation:

$$\eta = \eta_{founder}^{\frac{1}{2 * \eta_{fit} * \eta_{idea}}}$$

where  $0 \leq \eta_{founder}, \eta_{idea}, \eta_{fit} \leq 1$   
if either  $\eta_{idea}$  or  $\eta_{fit}$  are 0 then  $\eta = 0$

## 4 Results

This section is an illustration of how our program works. The inputs are:

1. **Founder profile summary:** Linkedin profile of a founder in a json format. Afterwards, it converts that into a summary.
2. **Idea:** Description of the founder's idea.

Interim outputs are:

1. **Founder pros/cons:** Pros and cons analysis of the founder's profile
2. **Idea pros/cons:** Pros and cons analysis of the founder's idea

The final output is the founder-idea fit analysis.

**[Input] Profile Summary:** XXXXX is a 34-year-old male currently located in San Diego, California, USA. He has an extensive educational background, including a Doctor of Philosophy (Ph.D.) degree in Bioengineering and Biomedical Engineering from the University of California San Diego, where he also completed a Master's degree in Bioengineering, a Bachelor's degree in Bioengineering, and two Certificate/License programs. In total, he has had 5 educational experiences with a cumulative duration of 14 years. XXXXX has held various roles in different organizations, Co-founder & CEO at Electrozyme, and Due Diligence Analyst at Tech Coast Angels. Prior to founding his own company, he worked as a Graduate Student Researcher at the University of California San Diego and held positions at Power Standards Laboratory and Design Focus. His skills range from muscle mechanics to startup management and include expertise in areas such as biomedical engineering, molecular biology, and leadership. XXXXX has also authored numerous articles related to cardiac mechanics and myocardial function.

1. The universities where the founder studied, along with their respective global rankings according to the latest QS World University Rankings:
  - University of California San Diego: Ranked 53rd globally
2. The subjects studied at university (only degree awarding subjects):
  - Bioengineering



- Biomedical Engineering
- Technology Business Creation

3. The jobs worked prior to founding (position title and employer):

- Graduate Student Researcher at University of California San Diego
- Due Diligence Analyst at Tech Coast Angels
- Bioengineering Microcirculation Lab Undergraduate Research Associate at University of California San Diego
- Mechanical Design Assistant at Power Standards Laboratory
- Manufacturing Technician at Power Standards Laboratory
- Purchasing and Electronics Technician at Design Focus

**[Input] Business idea:** YYYYY develops a wearable biosensor platform that is capable of measuring blood level information. Under the leadership of XXXXX and XXXXX, YYYYY is redefining how biomedical innovations can be imagined and commercialized. While conducting his post-doctoral research at the University of California, San Diego in the laboratory for NanoBio-Electronics, XXXXX saw the potential to bring nanotechnology to the medical world. Combining forces with XXXXX, a Ph.D. in Biomedical Engineering, the two saw the opportunity to bring their minimally-invasive technology to the diabetes space. Finally, people with diabetes will have a better CGM experience that is not only more affordable but also pain-free.

**[Interim output] Related to the Founder's Profile:**

Pros:

- Strong educational background in bioengineering and biomedical engineering from a respected institution (UCSD)
- Co-founder of two companies, demonstrating entrepreneurial spirit
- Authored numerous articles related to cardiac mechanics and myocardial function, indicating expertise in his field
- Persistence demonstrated through academic achievements and entrepreneurial journey
- Ability to adapt inferred from diverse roles in different organizations
- Potential for high-quality product/service offerings due to technical expertise
- Ability to attract investment for his ventures

Cons:

- Lack of diversity in skill set, primarily focused on technical skills with less experience in economics or teaching
- Unclear how successful his entrepreneurial ventures have been
- Did not graduate from a top-ranked university
- Lack of specific evidence regarding product/service quality, business model viability, ethical standards, customer acquisition cost, ability to delegate
- Need for more specific evidence about adaptability within the startup environment itself

**[Interim output] Related to the Business Idea:**

Pros:

- Clear focus on addressing specific health needs, particularly diabetes management.
- Potential for the technology to be adapted to address other health needs in the future.
- Innovation in cutting-edge technology, specifically the application of nanotechnology in healthcare.
- Potential to make significant advancements in healthcare, especially in diabetes management.
- The wearable biosensor platform addresses a significant need in the dia-

betes space and provides a minimally invasive and affordable solution for continuous glucose monitoring (CGM).

- The product seems to be designed with the user in mind, addressing pain points such as invasiveness and cost associated with current CGM solutions.
- Business model viability is likely given that YYYYY's technology has been developed by experts targeting an existing problem in diabetes care.

Cons:

- Lack of explicit evidence of strong financial backing from established companies. While it can be inferred based on other factors, concrete information is not available.
- Potential competition and market saturation in the diabetes care sector could pose challenges.
- Lack of detailed information about their revenue model raises questions about business model viability.
- Without specific financial data available for YYYYY, it's difficult to assess their revenue growth accurately.

#### **[Output] Founder-Idea Fit Analysis:**

Synergies:

- XXXXX's strong educational background in bioengineering and biomedical engineering aligns well with YYYYY's focus on developing a wearable biosensor platform for diabetes management.
- His experience as a co-founder of two companies, including YYYYY, demonstrates his entrepreneurial spirit and leadership skills, which are crucial for driving the startup forward.
- His expertise in cardiac mechanics and myocardial function could potentially be leveraged to expand YYYYY's product offerings in the future.

Weaknesses:

- XXXXX's lack of diversity in skill set, primarily focused on technical skills with less experience in economics or teaching, might limit his ability to handle all aspects of running a startup. This could affect YYYYY's business model viability.
- The lack of specific evidence regarding product/service quality, business model viability, ethical standards, customer acquisition cost, ability to delegate within XXXXX's profile raises questions about his ability to lead YYYYY successfully.

Compatibility:

- XXXXX's strong technical background and entrepreneurial experience make him well-suited to lead a biomedical startup like YYYYY. However, he may need additional support in areas such as economics and business strategy.

Mitigations for Identified Cons:

- To address the con related to XXXXX's limited skill set outside of technical areas, he could consider bringing on board a co-founder or hiring key team members with complementary skills.
- To provide more specific evidence about adaptability within the startup environment itself, XXXXX could share more details about his previous entrepreneurial ventures' successes and challenges.

XXXXX has several strengths that align well with YYYYY's needs. His strong educational background and expertise in bioengineering and biomedical engineering are particularly beneficial for leading a biomedical startup like YYYYY. However, there are still notable challenges to overcome such as diversifying his skill set beyond technical areas.

Final Score: 0.65 (Moderate Fit) XXXXX's technical expertise and entrepreneurial experience align well with YYYYY's needs, but there are

still notable challenges to overcome. With targeted support and strategy adjustments, XXXXX could potentially lead YYYYY to success.

**Scores:**

Founder score: **0.69**  
 Idea score: **0.83**  
 Founder-Idea fit score: **0.65**  
 Aggregated score: **0.7**

## 5 Discussion and conclusion

### 5.1 Key findings

In this paper, we determine the founder and idea characteristics that lead to success, using LLMs. Then we use this list to evaluate a given startup that we consider for a potential investment. We do this by building on our previous decision-making framework through improvements such as enhanced data quality, optimization of similarity search weights, integrated unsupervised feature generation and efficiency gains through concurrent execution.

We first take a historical dataset of successful and unsuccessful startups based on certain criteria. Then we take the founder data and idea description as inputs to evaluate the founder-idea fit of a selected startup. We use these inputs to find similar founders and ideas from our historical dataset, and pick the top characteristics that matter for the specific idea that we are evaluating. Then, using these characteristics as criteria, we determine whether the founder and idea that we are evaluating have the right and synergistic traits to be successful. In other words, we evaluate the founder-idea fit.

This paper shows how a broad decision and reasoning framework can be built to automate and improve certain decision-making tasks of a human-heavy industry such as VC, using data engineering, embeddings, and advanced LLM techniques.

### 5.2 Limitations

This study’s analysis is predominantly based on a dataset with a significant bias toward the United States, which may skew the observed patterns of success and failure in a direction that is more reflective of the US context than other regions. Consequently, the generalizability of the findings may be limited and not fully representative of global entrepreneurial outcomes.

Furthermore, the conclusions drawn have not undergone backtesting to validate the predictive power or reliability of the outcomes over time or across different scenarios. Therefore, the results should be interpreted with caution, acknowledging the need for further validation to ascertain their applicability beyond the observed dataset.

The data used in our study comes from public sources and has been handled in full compliance with the appropriate ethical guidelines. It’s crucial to understand that our results

are confined by the dataset’s limitations and traits, meaning they might show biases due to the selective sharing or withholding of information by people in the dataset.

Also, since we gathered data through scraping methods, there might be issues with data quality that could affect the accuracy of our findings. We advise readers to be mindful of these limitations when considering the conclusions of our study.

### 5.3 Future work

We plan to take the following actions to improve our current work:

- Use larger and more diverse datasets.
- Use datasets from other geographical regions and see how the results change.
- Back test the results.
- Use another LLM to evaluate the results at scale.
- Expand this framework to other decision-making use cases and domains.
- Optimize the speed and cost of running the models.
- LLMs are instructed to be optimistic. Therefore, we’ll find a quantitative approach to normalize the scores.

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## A Appendix<sup>3</sup>

The following section details the offline process of determining the key features for founders and ideas, and shows an example of running the process for a given founder and an idea.

### A.1 Nearest founders

**Founder description:** XXXXX is a 34-year-old male currently located in San Diego, California, USA. He has an extensive educational background, including a Doctor of Philosophy (Ph.D.) degree in Bioengineering and Biomedical Engineering from the University of California San Diego, where he also completed a Master's degree in Bioengineering, a Bachelor's degree in Bioengineering, and two Certificate/License programs. In total, he has had 5 educational experiences with a cumulative duration of 14 years. XXXXX has held various roles in different organizations, Co-founder & CEO at Electrozyme, and Due Diligence Analyst at Tech Coast Angels. Prior to founding his own company, he worked as a Graduate Student Researcher at the University of California San Diego and held positions at Power Standards Laboratory and Design Focus. His skills range from muscle mechanics to startup management and include expertise in areas such as biomedical engineering, molecular biology, and leadership. XXXXX has also authored numerous articles related to cardiac mechanics and myocardial function.

1. The universities where the founder studied, along with their respective global rankings according to the latest QS World University Rankings:
  - University of California San Diego: Ranked 53rd globally
2. The subjects studied at university (only degree awarding subjects):
  - Bioengineering
  - Biomedical Engineering
  - Technology Business Creation
3. The jobs worked prior to founding (position title and employer):
  - Graduate Student Researcher at University of California San Diego
  - Due Diligence Analyst at Tech Coast Angels
  - Bioengineering Microcirculation Lab Undergraduate Research Associate at University of California San Diego
  - Mechanical Design Assistant at Power Standards Laboratory
  - Manufacturing Technician at Power Standards Laboratory
  - Purchasing and Electronics Technician at Design Focus

### Founders retrieved

$\mathcal{F}_1$  - **Success:** Yes

XXXXX is a 41-year-old male currently located in St. Louis, MO. He pursued his education at Washington University, where he obtained a PhD in Biomedical Engineering from 2004 to 2011, and at Case Western Reserve University, where he completed a Bachelor's degree in Biomedical Engineering from 2000 to 2004. XXXXX has a total of two educational experiences with a combined duration of 11 years. In terms of employment, he worked as an MD/PhD Candidate at Washington University from June 2004 to the present, and as the Chief Science Officer at Acera Surgical from November 2013 to the present. Prior to founding Acera Surgical in January 2012, he held positions at Retectix, LLC as President/CSO from October 2011 to November 2013, and at NanoMed, LLC as Founder/CEO from September 2010 to October 2011. XXXXX possesses a diverse skill set including economics, teaching, biomedical engineering, robotics, and commercialization. He has authored or co-authored three peer-reviewed articles on nanofibers, nerve regen-

<sup>3</sup>All data is taken from our database as scraped. Any errors have been unchanged.

eration, and cardiomyocytes. The universities where XXXXX studied are Washington University and Case Western Reserve University. According to the latest QS World University Rankings, Washington University is ranked #21 globally and Case Western Reserve University is ranked #401410 globally. The subjects studied at university were Biomedical Engineering for both degrees. The jobs worked prior to founding were MD/PhD Candidate at Washington University and Founder/CEO at NanoMed, LLC.

$\mathcal{F}_2$  - **Success:** Yes

XXXXX is a 35-year-old male currently located in San Francisco, California, USA. He pursued a Bachelor's degree in Bioengineering at MIT from 2006 to 2010. During this time, he won MIT's largest programming competition, Battlecode, twice. XXXXX has a total of one educational experience with a duration of 4 years. In terms of employment, he worked as an Algorithmic Trader at DRW Trading Group from 2010 to 2011 and co-founded Sonalight, a manufacturing company based in Palo Alto, California, from 2011 to 2012. Following this, XXXXX co-founded Amplitude in 2012 and has held various roles within the company, including CEO and Chairman. He has a total of 5 jobs with individual durations ranging from a few months to over 10 years. XXXXX's skills include software development, programming languages, data analysis, financial modeling, and more. He has also written articles on topics related to his expertise.

1. The universities where the founder studied, along with their respective global rankings according to the latest QS World University Rankings:
  - Massachusetts Institute of Technology (MIT) - Ranked #1 globally for Engineering & Technology
2. The subjects studied at university (only degree awarding subjects):
  - Bioengineering
3. The jobs worked prior to founding (position title and employer):
  - Algorithmic Trader at DRW Trading Group
  - Co-Founder at Sonalight

$\mathcal{F}_3$  - **Success:** Yes

XXXXX is a male individual currently based in Boston, MA. He pursued a Bachelor's degree in Bioengineering from the University of California Berkeley and later studied at Johns Hopkins University School Of Medicine. His educational journey includes two institutions, spanning over a 4-year program. In terms of employment, XXXXX has held various roles, including Co-Founder at Signal Vine and Fellow at Rock Health before founding Reify Health, where he currently serves as the Executive Chairman & Co-Founder. His previous roles add up to a total of three jobs, with varying durations. As for skills and articles, there is no specific information provided in the JSON string. The universities where XXXXX studied are the University of California Berkeley and Johns Hopkins University School Of Medicine. According to the latest QS World University Rankings, the University of California Berkeley is ranked 30th globally and Johns Hopkins University is ranked 24th globally. The subjects studied at university were Bioengineering and Medicine. The jobs worked prior to founding Reify Health were Co-Founder at Signal Vine and Fellow at Rock Health.

## A.2 Nearest ideas

**Idea description:** YYYYY develops a wearable biosensor platform that is capable of measuring blood level information. Under the leadership of XXXXX and XXXXX, YYYYY is redefining how biomedical innovations can be imagined

and commercialized. While conducting his post-doctoral research at the University of California, San Diego in the laboratory for NanoBioElectronics, XXXXX saw the potential to bring nanotechnology to the medical world. Combining forces with XXXXX, a Ph.D. in Biomedical Engineering, the two saw the opportunity to bring their minimally-invasive technology to the diabetes space. Finally, people with diabetes will have a better CGM experience that is not only more affordable but also pain-free.

### Ideas retrieved

$\mathcal{I}_1$ : *Nix*

**Success:** No

**Idea description:** Nix makes biosensors that analyze electrochemical biomarkers to deliver health and wellness data to consumers. Its first consumer product is a skin patch that analyzes sweat to provide athletes, soldiers, and laborers with personalized hydration guidance in real-time, helping them optimize performance and prevent dehydration.

$\mathcal{I}_2$ : *MicroTech Medical*

**Success:** Yes

**Idea description:** MicroTech Medical founded in January, 2011 in Hangzhou Future Technical City, which is the Industrial Garden for High-level Overseas Talents in Zhejiang Province, recieved capital from Eli Lilly and Company. They devote to innovate and manufacture high-tech and more affordable medical devices related to Diabetes Care.

$\mathcal{I}_3$ : *BIOS*

**Success:** No

**Idea description:** BIOS is developing a full-stack neural interface platform, that uses AI to decode and encode the signals from to the body, to treat chronic health conditions. BIOS began operation in 2015. It has its headquarters in Cambridge in the United Kingdom and an R&D office in Montreal, Canada.

### A.3 Unsupervised founder feature generation

Act as four experienced analysts working for the same venture capital company. Each analyst will use their experience and expertise to identify features that indicate whether a person will be a successful or unsuccessful founder. Additionally, they aim to develop a model that can quantitatively predict success, so the features are more likely to be quantitative in nature. In each round, each analyst will identify one such feature and share it with the group. The analysts will then vote on each feature (the analyst who proposed the feature cannot vote for their own proposal), indicating their agreement or disagreement. Following this, the analysts will proceed to the next step, and so on. If a feature is downvoted, the proposed feature will be removed from the final list. After 10 rounds, the final list of features proposed by the analysts will be shown.

For example:

Round 1:

- Analyst 1: Educational Experience Length. Successful founders are more likely to study for 3-4 years and unsuccessful founders are more likely to have studied for 0-1 years.

- Analyst 2: Time before Founding. Successful founders are founding slightly later in their careers than unsuccessful ones.
- Analyst 3: Micromanaging. Successful founder often control all the processes in their company and supervise all the work.
- Analyst 4: Number of jobs. On average, successful founders have held more jobs than unsuccessful ones.

Voting Results:

- Educational Experience Length: Analyst 2,3 and 4 agree. **(Upvoted)**
- Time before Founding: Analyst 1, 2 and 3. **(Upvoted)**
- Micromanaging: Analyst 1 and 2 disagree. **(Downvoted)**
- Number of jobs: Analyst 1,2 and 3 agree. **(Upvoted)**

Begin with round 1 and proceed to the next round only after receiving the OK.

### An example response

Round 1:

- Analyst 1: Prior Entrepreneurial Experience. Successful founders are more likely to have had previous entrepreneurial experience, while unsuccessful ones may not.
- Analyst 2: Industry Knowledge. Successful founders often have deep knowledge of the industry they're entering, while unsuccessful ones may lack this.
- Analyst 3: Financial Literacy. Successful founders often have a strong understanding of financial management and principles, which is crucial for running a business.
- Analyst 4: Network Strength. Successful founders usually have a strong network of connections in their industry, which can be beneficial for gaining resources and support.

Voting Results:

- Prior Entrepreneurial Experience: Analyst 2,3 and 4 agree. **(Upvoted)**
- Industry Knowledge: Analyst 1,3 and 4 agree. **(Upvoted)**
- Financial Literacy: Analyst 1,2 and 4 agree. **(Upvoted)**
- Network Strength: Analyst 1,2 and 3 agree. **(Upvoted)**

Round 2:

- Analyst 1: Leadership Experience. Successful founders often have prior leadership experience, which helps them manage their team effectively.
- Analyst 2: Risk Tolerance. Successful founders are usually more willing to take calculated risks compared to unsuccessful ones.
- Analyst 3: Persistence. Successful founders tend to be more persistent and resilient in the face of challenges and setbacks.
- Analyst 4: Adaptability. Successful founders are typically more adaptable and flexible, able to pivot their business strategy as needed.

Voting Results:

- Leadership Experience: Analyst 2,3 and 4 agree. **(Upvoted)**
- Risk Tolerance: Analyst 1,3 and 4 agree. **(Upvoted)**
- Persistence: Analyst 1,2 and 4 agree. **(Upvoted)**
- Adaptability: Analyst 1,2 and 3 agree. **(Upvoted)**

Round 3:

- Analyst 1: Market Understanding. Successful founders often have a deep understanding of their target market and customer needs.

- Analyst 2: Innovation Capability. Successful founders are usually more innovative, able to come up with unique solutions to problems.
- Analyst 3: Emotional Intelligence. Successful founders tend to have high emotional intelligence, which helps them manage relationships and make better decisions.
- Analyst 4: Vision Clarity. Successful founders typically have a clear vision for their company's future.

Voting Results:

- Market Understanding: Analyst 2,3 and 4 agree. **(Upvoted)**
- Innovation Capability: Analyst 1,3 and 4 agree. **(Upvoted)**
- Emotional Intelligence: Analyst 1,2 and 4 disagree. **(Downvoted)**
- Vision Clarity: Analyst 1,2 and 3 agree. **(Upvoted)**

Round 4:

- Analyst 1: Product/Service Quality. Successful founders often offer high-quality products or services that meet customer needs.
- Analyst 2: Business Model Viability. Successful founders usually have a viable business model that can generate sustainable revenue.
- Analyst 3: Team Building Skills. Successful founders tend to be good at building and managing teams, which is crucial for company growth.
- Analyst 4: Customer Focus. Successful founders typically prioritize customer satisfaction and build their business around meeting customer needs.

Voting Results:

- Product/Service Quality: Analyst 2,3 and 4 agree. **(Upvoted)**
- Business Model Viability: Analyst 1,3 and 4 agree. **(Upvoted)**
- Team Building Skills: Analyst 1,2 and 4 agree. **(Upvoted)**
- Customer Focus: Analyst 1,2 and 3 agree. **(Upvoted)**

Round 5:

- Analyst 1: Decision-Making Skills. Successful founders often have strong decision-making skills, enabling them to make the right choices for their business.
- Analyst 2: Ability to Attract Investment. Successful founders usually have a knack for attracting investment, which can fuel growth and expansion.
- Analyst 3: Sales Skills. Successful founders tend to be good at selling their product or service, which is crucial for revenue generation.
- Analyst 4: Strategic Planning Ability. Successful founders typically excel at strategic planning, setting clear goals and outlining steps to achieve them.

Voting Results:

- Decision-Making Skills: Analyst 2,3 and 4 agree. **(Upvoted)**
- Ability to Attract Investment: Analyst 1,3 and 4 agree. **(Upvoted)**
- Sales Skills: Analyst 1,2 and 4 agree. **(Upvoted)**
- Strategic Planning Ability: Analyst 1,2 and 3 agree. **(Upvoted)**

Round 6:

- Analyst 1: Problem-Solving Skills. Successful founders often have strong problem-solving skills, enabling them to overcome challenges and obstacles.
- Analyst 2: Passion for the Business. Successful founders usually have a deep passion for their business, which can drive them to work harder and persevere through difficulties.
- Analyst 3: Ability to Learn from Mistakes. Successful founders tend



to be good at learning from their mistakes and using these lessons to improve.

- Analyst 4: Time Management Skills. Successful founders typically excel at managing their time effectively, ensuring they focus on the most important tasks.

Voting Results:

- Problem-Solving Skills: Analyst 2,3 and 4 agree. **(Upvoted)**
- Passion for the Business: Analyst 1,3 and 4 agree. **(Upvoted)**
- Ability to Learn from Mistakes: Analyst 1,2 and 4 agree. **(Upvoted)**
- Time Management Skills: Analyst 1,2 and 3 agree. **(Upvoted)**

Round 7:

- Analyst 1: Communication Skills. Successful founders often have strong communication skills, which are crucial for conveying their vision and motivating their team.
- Analyst 2: Ability to Handle Stress. Successful founders usually have a high tolerance for stress and can maintain composure under pressure.
- Analyst 3: Technical Skills. Successful founders tend to have strong technical skills related to their industry or product.
- Analyst 4: Ethical Standards. Successful founders typically uphold high ethical standards, which can build trust with customers, employees, and investors.

Voting Results:

- Communication Skills: Analyst 2,3 and 4 agree. **(Upvoted)**
- Ability to Handle Stress: Analyst 1,3 and 4 agree. **(Upvoted)**
- Technical Skills: Analyst 1,2 and 4 agree. **(Upvoted)**
- Ethical Standards: Analyst 1,2 and 3 agree. **(Upvoted)**

Round 8:

- Analyst 1: Ability to Delegate. Successful founders often know when to delegate tasks, freeing up their time to focus on strategic decisions.
- Analyst 2: Customer Retention Rate. Successful founders usually have a high customer retention rate, indicating satisfaction with their product or service.
- Analyst 3: Growth Mindset. Successful founders tend to have a growth mindset, always looking for ways to improve and expand their business.
- Analyst 4: Competitive Analysis Skills. Successful founders typically excel at analyzing their competition and positioning their business accordingly.

Voting Results: - Ability to Delegate: Analyst 2,3 and 4 agree. **(Upvoted)**

- Customer Retention Rate: Analyst 1,3 and 4 agree. **(Upvoted)**
- Growth Mindset: Analyst 1,2 and 4 agree. **(Upvoted)**
- Competitive Analysis Skills: Analyst 1,2 and 3 agree. **(Upvoted)**

Round 9:

- Analyst 1: Ability to Inspire Others. Successful founders often have the ability to inspire their team, which can boost morale and productivity.
- Analyst 2: Financial Management Skills. Successful founders usually excel at managing their company's finances, ensuring profitability and sustainability.
- Analyst 3: Attention to Detail. Successful founders tend to pay close attention to detail, which can help them spot opportunities or issues that others might miss.

- Analyst 4: Negotiation Skills. Successful founders typically have strong negotiation skills, which can be beneficial in various business situations.

Voting Results: - Ability to Inspire Others: Analyst 2,3 and 4 agree. **(Upvoted)**

- Financial Management Skills: Analyst 1,3 and 4 agree. **(Upvoted)**
- Attention to Detail: Analyst 1,2 and 4 agree. **(Upvoted)**
- Negotiation Skills: Analyst 1,2 and 3 agree. **(Upvoted)**

Round 10:

- Analyst 1: Ability to Attract Talent. Successful founders often have the ability to attract and retain top talent, which can significantly contribute to their company's success.
- Analyst 2: Product Differentiation. Successful founders usually offer a product or service that is significantly different from competitors in the market.
- Analyst 3: Customer Acquisition Cost. Successful founders tend to have lower customer acquisition costs, indicating efficient marketing and sales strategies.
- Analyst 4: Resilience. Successful founders typically demonstrate resilience, bouncing back from setbacks and persisting despite challenges.

Voting Results:

- Ability to Attract Talent: Analyst 2,3 and 4 agree. **(Upvoted)**
- Product Differentiation: Analyst 1,3 and 4 agree. **(Upvoted)**
- Customer Acquisition Cost: Analyst 1,2 and 4 agree. **(Upvoted)**
- Resilience: Analyst 1,2 and 3 agree. **(Upvoted)**

Enter your prompt: Summarize the upvoted and downvoted features as Python lists, for example, ['upvoted feature1', 'upvoted feature2', ...] and ['downvoted feature1', 'downvoted feature2', ...]. Output only the lists, without an equals sign, and ensure duplicates are removed. Place the two lists consecutively, separated by a newline.

```
['Prior Entrepreneurial Experience', 'Industry Knowledge', 'Financial Literacy', 'Network Strength', 'Leadership Experience', 'Risk Tolerance', 'Persistence', 'Adaptability', 'Market Understanding', 'Innovation Capability', 'Vision Clarity', 'Product/Service Quality', 'Business Model Viability', 'Team Building Skills', 'Customer Focus', 'Decision-Making Skills', 'Ability to Attract Investment', 'Sales Skills', 'Strategic Planning Ability', 'Problem-Solving Skills', 'Passion for the Business', 'Ability to Learn from Mistakes', 'Time Management Skills', 'Communication Skills', 'Ability to Handle Stress', 'Technical Skills', 'Ethical Standards', 'Ability to Delegate', 'Customer Retention Rate', 'Growth Mindset', 'Competitive Analysis Skills', 'Ability to Inspire Others', 'Financial Management Skills', 'Attention to Detail', 'Negotiation Skills', 'Ability to Attract Talent', 'Product Differentiation', 'Customer Acquisition Cost', 'Resilience']

['Emotional Intelligence']
```

#### A.4 LLM critic for generated founder features

Conduct an in-depth critique session led by a distinguished expert in entrepreneurship and venture capital, focusing on a structured analysis of two provided lists: one featuring upvoted characteristics deemed potentially indicative of a founder's success, and the other listing downvoted

characteristics considered less critical. The expert's task is to re-evaluate these features, assigning a significance level to each, regardless of their original classification as upvoted or downvoted. This exercise recognizes that features initially deemed of lesser importance may hold significant value upon closer examination, and vice versa.

The significance level is determined using a refined scoring scale:

- **\*\*0.9 to 1.0\*\***: Essential - Indispensable for a founder's success, a characteristic without which success is significantly harder to achieve.
- **\*\*0.8 to 0.89\*\***: Highly Important - Greatly contributes to success, though not strictly essential.
- **\*\*0.7 to 0.79\*\***: Important - Positively influences success, a trait that founders benefit from having.
- **\*\*0.6 to 0.69\*\***: Moderately Important - Useful but not critical, a trait that can aid success in certain contexts.
- **\*\*0.5 to 0.59\*\***: Somewhat Important - May influence success in limited scenarios, not broadly crucial.
- **\*\*Below 0.5\*\***: Of Limited Importance - Has minimal impact on a founder's ability to succeed.

For each session, the expert examines a selection of features from both the upvoted and downvoted lists. They will:

1. Assign a significance score to each feature, applying the scoring scale to accurately reflect its importance in a founder's success.
2. Provide comprehensive justifications for each score, drawing on a wealth of experience, empirical research, industry trends, and observed outcomes among founders. These justifications should elaborate on the reasoning behind the assigned importance, offering insights into the feature's impact on entrepreneurial success.

The objective is to challenge initial perceptions and uncover the true value of each feature, promoting a nuanced understanding of what contributes to or detracts from a founder's success. This re-evaluation allows for a critical reassessment of features, acknowledging that the context, combination of traits, and unique circumstances of each entrepreneurial endeavor can shift the importance of these characteristics.

Upon completing the analysis of all features, the expert reflects on the findings, discussing any patterns, surprises, and the interplay between different characteristics. This reflection aims to synthesize insights into how various features combine to influence a founder's success trajectory, offering strategic guidance for entrepreneurs, investors, and those supporting the startup ecosystem.

This critique session is designed to yield a sophisticated, evidence-based perspective on the factors that truly matter for founder success, enriching the discourse on effective entrepreneurship and informed venture capital investment.

Input:

### An example response

Expert Critique Session:

1. **\*\*Prior Entrepreneurial Experience\*\*** - Score: 0.9

Justification: Prior entrepreneurial experience is essential as it provides a founder with firsthand knowledge of the challenges and rewards of

starting a business. It also helps in understanding the dynamics of the market, managing resources, and dealing with failure.

2. **Industry Knowledge** - Score: 0.9

Justification: Deep understanding of the industry is indispensable for identifying opportunities, navigating challenges, and staying ahead of competition.

3. **Financial Literacy** - Score: 0.8

Justification: While not strictly essential, financial literacy greatly contributes to success by enabling effective budgeting, forecasting, and financial decision-making.

4. **Network Strength** - Score: 0.7

Justification: A strong network can provide valuable resources and support but isn't always critical for success.

5. **Leadership Experience** - Score: 0.9

Justification: Leadership experience is crucial for managing teams effectively and driving the company towards its goals.

6. **Risk Tolerance** - Score: 0.8

Justification: High risk tolerance often characterizes successful entrepreneurs but isn't strictly necessary if risks are managed well.

7. **Persistence** - Score: 1.0

Justification: Persistence is absolutely essential in overcoming obstacles and achieving long-term success.

8. **Adaptability** - Score: 1.0

Justification: The ability to adapt to changing circumstances is vital in the fast-paced startup environment.

9. **Emotional Intelligence** - Score: 0.85

Justification: Emotional intelligence was initially downvoted but upon re-evaluation it's highly important as it aids in understanding team dynamics, managing stress, making balanced decisions and building strong relationships which are all key aspects of running a successful venture.

Reflection: The re-evaluation process revealed that some characteristics initially considered less critical, such as emotional intelligence, are actually highly important. It also confirmed the essential nature of traits like persistence and adaptability. This exercise underscores the importance of a nuanced understanding of founder success factors, recognizing that each characteristic can play a significant role depending on the context and individual circumstances.

Enter your prompt: Continue with the remaining features

Response:

10. **Market Understanding** - Score: 0.9

Justification: Understanding the market is essential for identifying opportunities, understanding customer needs, and positioning the product or service effectively.

11. **Innovation Capability** - Score: 0.8

Justification: While not strictly necessary, the ability to innovate can greatly contribute to a startup's success by differentiating it from competitors.

12. **Vision Clarity** - Score: 0.85

Justification: Clear vision is highly important as it provides direction and purpose, guiding decision-making and strategy.

13. **\*\*Product/Service Quality\*\*** - Score: 1.0  
Justification: The quality of the product or service is absolutely essential; without it, customer satisfaction and retention are unlikely.
14. **\*\*Business Model Viability\*\*** - Score: 1.0  
Justification: A viable business model is indispensable for generating sustainable revenue and achieving long-term success.
15. **\*\*Team Building Skills\*\*** - Score: 0.8  
Justification: Building a strong team greatly contributes to success but isn't strictly necessary if other aspects like product quality and market fit are exceptionally strong.
16. **\*\*Customer Focus\*\*** - Score: 0.9  
Justification: Customer focus is crucial for understanding customer needs, improving products/services, and building customer loyalty.
17. **\*\*Decision-Making Skills\*\*** - Score: 0.9  
Justification: Effective decision-making skills are critical in navigating through challenges and seizing opportunities in a timely manner.
18. **\*\*Ability to Attract Investment\*\*** - Score: 0.7  
Justification: While attracting investment can accelerate growth, many successful businesses have thrived without significant external funding initially.
19. **\*\*Sales Skills\*\***-Score: 0.75  
Justification: Sales skills are important as they directly influence revenue generation but they can be complemented by a strong sales team.
20. **\*\*Strategic Planning Ability\*\*** - Score: 0.85  
Justification: Strategic planning is highly important as it sets the direction for the business and helps in resource allocation.
- Reflection: The re-evaluation process continues to highlight the importance of a balanced set of skills and characteristics for founder success. While some traits like product/service quality and business model viability are universally essential, others like sales skills and ability to attract investment can vary in importance depending on the specific context and circumstances of the startup.
- Enter your prompt: Continue with the remaining features  
Response:
21. **\*\*Problem-Solving Skills\*\*** - Score: 0.9  
Justification: Problem-solving skills are essential for navigating challenges and obstacles that inevitably arise in the entrepreneurial journey.
22. **\*\*Passion for the Business\*\*** - Score: 0.85  
Justification: Passion is highly important as it fuels persistence, inspires teams, and can be infectious to investors and customers alike.
23. **\*\*Ability to Learn from Mistakes\*\*** - Score: 0.9  
Justification: The ability to learn from mistakes is crucial for continuous improvement and avoiding repeated failures.
24. **\*\*Time Management Skills\*\*** - Score: 0.7  
Justification: Time management is important but not critical; many successful entrepreneurs have thrived despite struggling with this aspect, often by delegating effectively.
25. **\*\*Communication Skills\*\*** - Score: 0.8  
Justification: Communication skills greatly contribute to success by facilitating effective team collaboration, investor relations, and customer engagement.

26. **\*\*Ability to Handle Stress\*\*** - Score: 0.75  
 Justification: While handling stress well can positively influence personal wellbeing and team morale, founders can also implement stress management strategies or seek support when needed.

27. **\*\*Technical Skills\*\*** - Score : 0.65  
 Justification : Technical skills are moderately important; they can be particularly useful in tech startups but aren't strictly necessary if the founder can hire or partner with technical experts.

28 . **\*\*Ethical Standards\*\***-Score : 1  
 Justification : High ethical standards are essential for building trust with customers, employees, and investors which is fundamental for long-term success.

29 . **\*\*Ability to Delegate\*\***-Score : 0.8  
 Justification : Delegation is highly important as it allows founders to focus on strategic aspects of the business while empowering their team members.

Reflection: The re-evaluation process continues to underscore the importance of a balanced set of skills and characteristics for founder success. While some traits like ethical standards and problem-solving skills are universally essential, others like technical skills and ability to handle stress can vary in importance depending on the specific context and circumstances of the startup.

Enter your prompt: Continuw with the remaining features  
 Response:

30. **\*\*Customer Retention Rate\*\*** - Score: 0.85  
 Justification: A high customer retention rate is highly important as it indicates customer satisfaction and can significantly contribute to sustainable growth.

31. **\*\*Growth Mindset\*\*** - Score: 0.9  
 Justification: A growth mindset is essential for continuous learning, adapting to change, and driving the business forward.

32. **\*\*Competitive Analysis Skills\*\*** - Score: 0.7  
 Justification: While understanding competition is important, it's not critical if the startup has a unique value proposition and understands its customers well.

33. **\*\*Ability to Inspire Others\*\*** - Score: 0.8  
 Justification: The ability to inspire others greatly contributes to team motivation and productivity but isn't strictly necessary if other leadership skills are strong.

34 . **\*\*Financial Management Skills\*\*** - Score : 0.85  
 Justification : Financial management skills are highly important for ensuring financial health of the company and making informed financial decisions.

35 . **\*\*Attention to Detail\*\***-Score : 0.65  
 Justification : Attention to detail can be useful in certain contexts like product development or quality control but isn't broadly crucial for success.

36 . **\*\*Negotiation Skills\*\***-Score : 0.75  
 Justification : Negotiation skills are important in various scenarios like fundraising, sales or partnerships but their importance can vary depending on the specific circumstances of the startup.

37 . **\*\*Ability to Attract Talent\*\***-Score : 0.8  
Justification : Attracting talent greatly contributes to building a strong team which is key for executing the business strategy effectively.

38 . **\*\*Product Differentiation\*\***-Score : 0.9  
Justification : Product differentiation is essential in competitive markets as it helps attract and retain customers by offering unique value.

39 . **\*\*Customer Acquisition Cost\*\***-Score : 0.7  
Justification : While understanding customer acquisition cost is important for assessing marketing efficiency, it's not critical if the startup has strong organic growth.

40 . **\*\*Resilience\*\***-Score : 1  
Justification : Resilience is absolutely essential for enduring the challenges and setbacks that come with entrepreneurship.

Reflection: The final re-evaluation process reaffirms the importance of a balanced set of skills and characteristics for founder success. Traits like resilience, growth mindset, and product differentiation are universally essential, while others like competitive analysis skills and attention to detail can vary in importance depending on the specific context and circumstances of the startup. This exercise underscores the complexity of entrepreneurial success and the need for a nuanced understanding of these factors.

Enter your prompt: Given the detailed analysis of founder characteristics and their significance to success, create a Python list of tuples summarizing each characteristic along with its assigned importance score and a brief justification. The list should follow this format:

```
[
("Characteristic Name", Importance Score, "Justification"),
...,
]
```

Only include the characteristic name, its assigned importance score based on the refined scoring scale, and a concise justification highlighting why the characteristic is rated as such. The justification should briefly capture the essence of the expert's analysis, focusing on the characteristic's impact on a founder's potential for success. This list will serve as a compact, at-a-glance reference for entrepreneurs, mentors, and others interested in the critical factors influencing founder success. Proceed with this task, ensuring to accurately reflect the comprehensive critique session's outcomes. Response: Summary:

```
summary = [ ('Prior Entrepreneurial Experience', 0.9, 'Provides firsthand knowledge of the challenges and rewards of starting a business.'), ('Industry Knowledge', 0.9, 'Crucial for identifying opportunities and navigating challenges.'), ('Financial Literacy', 0.8, 'Enables effective budgeting, forecasting, and financial decision-making.'), ('Network Strength', 0.7, 'Can provide valuable resources and support but isn't always critical.'), ('Leadership Experience', 0.9, 'Crucial for managing teams effectively and driving the company towards its goals.'), ('Risk Tolerance', 0.8, 'Important for dealing with uncertainties in business.'), ('Persistence', 1.0, 'Essential in overcoming obstacles and achieving long-term success.'), ('Adaptability', 1.0, 'Vital in the fast-paced startup environment.'), ('Emotional Intelligence', 0.85, 'Aids in understanding team dynamics, managing stress and building strong relationships'), ('Market Understanding', 0.9, 'Essential for identifying opportunities and positioning the prod-
```

uct or service effectively'), ('Innovation Capability', 0.8, 'Greatly contributes to a startup's success by differentiating it from competitors'), ('Vision Clarity', 0.85, 'Highly important as it provides direction and purpose'), ('Product/Service Quality', 1, 'Absolutely essential; without it customer satisfaction is unlikely'), ('Business Model Viability', 1, 'Indispensable for generating sustainable revenue'), ('Team Building Skills', 0.8, 'Greatly contributes to success but isn't strictly necessary if other aspects are exceptionally strong'), ('Customer Focus', 0.9, 'Crucial for understanding customer needs and building customer loyalty'), ('Decision-Making Skills', 0.9, 'Critical in navigating through challenges and seizing opportunities'), ('Ability to Attract Investment', 0.7, 'While attracting investment can accelerate growth, many successful businesses have thrived without significant external funding initially'), ('Sales Skills', 0.75, 'Important as they directly influence revenue generation but can be complemented by a strong sales team'), ('Strategic Planning Ability', 0.85, 'Highly important as it sets the direction for the business and helps in resource allocation'), ('Problem-Solving Skills', 0.9, 'Essential for navigating challenges and obstacles.'), ('Passion for the Business', 0.85, 'Highly important as it fuels persistence and inspires teams.'), ('Ability to Learn from Mistakes', 0.9, 'Crucial for continuous improvement.'), ('Time Management Skills', 0.7, 'Important but not critical; can be managed by effective delegation.'), ('Communication Skills', 0.8, 'Greatly contribute to success by facilitating effective collaboration.'), ('Ability to Handle Stress', 0.75, 'Positive influence on personal wellbeing and team morale.'), ('Technical Skills', 0.65, 'Useful in tech startups but not strictly necessary if technical experts are available.'), ('Ethical Standards', 1, 'Essential for building trust with customers, employees, and investors'), ('Ability to Delegate', 0.8, 'Highly important as it allows founders to focus on strategic aspects of the business while empowering their team members'), ('Customer Retention Rate', 0.85, 'Highly important as it indicates customer satisfaction and contributes to sustainable growth'), ('Growth Mindset', 0.9, 'Essential for continuous learning, adapting to change, and driving the business forward'), ('Competitive Analysis Skills', 0.7, 'Important but not critical if the startup has a unique value proposition and understands its customers well'), ('Ability to Inspire Others', 0.8, 'Greatly contributes to team motivation and productivity but isn't strictly necessary if other leadership skills are strong'), ('Financial Management Skills', 0.85, 'Highly important for ensuring financial health of the company and making informed financial decisions'), ('Attention to Detail', 0.65, 'Useful in certain contexts like product development or quality control but isn't broadly crucial for success'), ('Negotiation Skills', 0.75, 'Important in various scenarios like fundraising, sales or partnerships but their importance can vary depending on the specific circumstances of the startup'), ('Ability to Attract Talent', 0.8, 'Greatly contributes to building a strong team which is key for executing the business strategy effectively'), ('Product Differentiation', 0.9, 'Essential in competitive markets as it helps attract and retain customers by offering unique value'), ('Customer Acquisition Cost', 0.7, 'Important for assessing marketing efficiency, not critical with strong organic growth.'), ('Resilience', 1.0, 'Absolutely essential for enduring challenges and setbacks.') ]

### A.5 Unsupervised idea feature generation

Act as four experienced analysts working for the same venture capital firm. Each analyst will leverage their experience and expertise to identify characteristics that indicate whether a startup idea will likely lead to success or failure. Additionally, they aim to develop a model that can



quantitatively predict a startup's success, so the characteristics are more likely to be quantitative in nature. In each round, each analyst will identify one such characteristic and share it with the group. The analysts will then vote on each characteristic (the analyst who proposed the characteristic cannot vote for their own proposal), indicating their agreement or disagreement. Following this, the analysts will proceed to the next step, and so on. If a characteristic is downvoted, the proposed characteristic will be removed from the final list. After 10 rounds, the final list of characteristics proposed by the analysts will be shown.

For example:

Round 1:

Analyst 1: Market Size. Successful startups are more likely to target markets with a size of \$10 billion or more, while unsuccessful startups often target smaller markets.

Analyst 2: Customer Acquisition Cost (CAC). Successful startups typically have a lower CAC in the early stages compared to unsuccessful ones.

Analyst 3: Product Differentiation. Successful startups often offer products with unique features or value propositions that clearly differentiate them from competitors.

Analyst 4: Time to Market. Successful startups tend to launch their products faster than unsuccessful ones, capitalizing on market needs more efficiently.

Voting Results:

Market Size: Analyst 2, 3, and 4 agree. **(Upvoted)**

Customer Acquisition Cost: Analyst 1, 3, and 4 agree. **(Upvoted)**

Product Differentiation: Analyst 1 and 2 disagree. **(Downvoted)**

Time to Market: Analyst 1, 2, and 3 agree. **(Upvoted)**

Begin with round 1 and proceed to the next round only after receiving the OK.

### An example response

Round 1:

Analyst 1: Revenue Growth. Successful startups often demonstrate a consistent and significant increase in revenue over time, while unsuccessful ones may struggle to generate or grow their revenue.

Analyst 2: Team Experience. The founding team's experience in the industry can significantly impact the startup's success. Startups with experienced founders are more likely to succeed.

Analyst 3: Scalability. Successful startups usually have a scalable business model that allows them to expand rapidly without a proportional increase in costs.

Analyst 4: Intellectual Property (IP). Startups with protected IP (patents, copyrights, etc.) are more likely to succeed as they have unique assets that competitors cannot easily replicate.

Voting Results:

Revenue Growth: Analyst 2, 3, and 4 agree. **(Upvoted)**

Team Experience: Analyst 1, 3, and 4 agree. **(Upvoted)**

Scalability: Analyst 1, 2, and 4 agree. **(Upvoted)**

Intellectual Property: Analyst 1, 2, and 3 agree. **(Upvoted)**

Please confirm if we can proceed to Round 2.

Enter your prompt: Continue to round 2

Response:

Round 2:

Analyst 1: Market Penetration. Successful startups often have a higher market penetration rate, indicating that they are able to capture a significant portion of their target market.

Analyst 2: Customer Retention Rate. A high customer retention rate is indicative of a successful startup as it shows that the product or service is meeting customer needs and expectations.

Analyst 3: Gross Margin. Successful startups typically have higher gross margins, which indicates efficient operations and cost management.

Analyst 4: Funding Received. The amount of funding received can be an indicator of success, as it suggests investor confidence in the startup's potential.

Voting Results:

Market Penetration: Analyst 2, 3, and 4 agree. (Upvoted)

Customer Retention Rate: Analyst 1, 3, and 4 agree. (Upvoted)

Gross Margin: Analyst 1, 2, and 4 agree. (Upvoted)

Funding Received: Analyst 1, 2, and 3 agree. (Upvoted)

Please confirm if we can proceed to Round 3.

Enter your prompt: Continue

Response:

Round 3:

Analyst 1: Business Model Viability. Successful startups often have a viable business model that can generate sustainable revenue over the long term.

Analyst 2: Product/Market Fit. Startups that have achieved product/-market fit, meaning their product meets a strong market demand, are more likely to succeed.

Analyst 3: Competitive Advantage. Successful startups usually have a clear competitive advantage, whether it's superior technology, exclusive partnerships, or other factors.

Analyst 4: User Growth Rate. A high user growth rate can indicate a successful startup as it shows that the product or service is attracting new users.

Voting Results:

Business Model Viability: Analyst 2, 3, and 4 agree. (Upvoted)

Product/Market Fit: Analyst 1, 3, and 4 agree. (Upvoted)

Competitive Advantage: Analyst 1, 2, and 4 agree. (Upvoted)

User Growth Rate: Analyst 1, 2, and 3 agree. (Upvoted)

Please confirm if we can proceed to Round 4.

Enter your prompt: Continue

Response:

Round 4:

Analyst 1: Churn Rate. Successful startups often have a lower churn rate, indicating that they are able to retain their customers over time.

Analyst 2: Unit Economics. Positive unit economics (revenue per unit exceeds cost per unit) can be a strong indicator of a startup's potential for profitability and success.

Analyst 3: Market Trends. Startups that align with current market trends

or future projections are more likely to succeed.

Analyst 4: Customer Satisfaction Score (CSAT). A high CSAT score indicates that customers are satisfied with the product or service, which can lead to higher customer retention and referral rates.

Voting Results:

Churn Rate: Analyst 2, 3, and 4 agree. (Upvoted)

Unit Economics: Analyst 1, 3, and 4 agree. (Upvoted)

Market Trends: Analyst 1, 2, and 4 agree. (Upvoted)

Customer Satisfaction Score: Analyst 1, 2, and 3 agree. (Upvoted)

Please confirm if we can proceed to Round 5.

Enter your prompt: Continue

Response:

Round 5:

Analyst 1: Financial Health. Successful startups often have a strong balance sheet with healthy cash flow, low debt levels, and solid financial management.

Analyst 2: Network Effects. Startups that can leverage network effects, where the value of their product or service increases as more people use it, are more likely to succeed.

Analyst 3: Regulatory Environment. Startups that operate in a favorable regulatory environment are more likely to succeed as they face fewer legal and compliance hurdles.

Analyst 4: Technology Adoption Rate. The rate at which users adopt a startup's technology can indicate its potential for success.

Voting Results:

Financial Health: Analyst 2, 3, and 4 agree. (Upvoted)

Network Effects: Analyst 1, 3, and 4 agree. (Upvoted)

Regulatory Environment: Analyst 1, 2, and 4 agree. (Upvoted)

Technology Adoption Rate: Analyst 1, 2, and 3 agree. (Upvoted)

Please confirm if we can proceed to Round 6.

Enter your prompt: Continue

Response:

Round 6:

Analyst 1: Exit Strategy. Successful startups often have a clear exit strategy, whether it's an acquisition, IPO, or other form of liquidity event.

Analyst 2: Customer Lifetime Value (CLTV). Startups with a high CLTV are more likely to succeed as they can generate more revenue from each customer over time.

Analyst 3: Market Share. A higher market share can indicate a successful startup as it shows that the company has a significant presence in its industry.

Analyst 4: Product Development Cycle. Startups with shorter product development cycles can adapt and innovate faster, which can contribute to their success.

Voting Results:

Exit Strategy: Analyst 2, 3, and 4 agree. (Upvoted)

Customer Lifetime Value: Analyst 1, 3, and 4 agree. (Upvoted)

Market Share: Analyst 1, 2, and 4 agree. (Upvoted)

Product Development Cycle: Analyst 1, 2, and 3 agree. (Upvoted)

Please confirm if we can proceed to Round 7.  
 Enter your prompt: Continue  
 Response:

Round 7:

Analyst 1: Brand Strength. Successful startups often have strong brands that are recognized and trusted by consumers.

Analyst 2: Sales Efficiency. Startups with efficient sales processes, as indicated by metrics like the sales conversion rate or the average deal size, are more likely to succeed.

Analyst 3: Operational Efficiency. Successful startups typically have high operational efficiency, which can be measured by metrics like the ratio of operating expenses to revenue.

Analyst 4: Innovation Rate. The rate at which a startup innovates and introduces new products or features can indicate its potential for success.

Voting Results:

Brand Strength: Analyst 2, 3, and 4 agree. (Upvoted)

Sales Efficiency: Analyst 1, 3, and 4 agree. (Upvoted)

Operational Efficiency: Analyst 1, 2, and 4 agree. (Upvoted)

Innovation Rate: Analyst 1, 2, and 3 agree. (Upvoted)

Please confirm if we can proceed to Round 8.

Enter your prompt: Continue

Response:

Round 8:

Analyst 1: Customer Acquisition Strategy. Successful startups often have effective customer acquisition strategies that allow them to attract new customers at a reasonable cost.

Analyst 2: Profit Margin. A higher profit margin can indicate a successful startup as it shows that the company is able to generate a significant amount of profit from its revenue.

Analyst 3: Market Volatility. Startups that can navigate and thrive in volatile markets are more likely to succeed.

Analyst 4: Employee Satisfaction. High employee satisfaction can lead to lower turnover rates and higher productivity, contributing to a startup's success.

Voting Results:

Customer Acquisition Strategy: Analyst 2, 3, and 4 agree. (Upvoted)

Profit Margin: Analyst 1, 3, and 4 agree. (Upvoted)

Market Volatility: Analyst 1, 2, and 4 agree. (Upvoted)

Employee Satisfaction: Analyst 1, 2, and 3 agree. (Upvoted)

Please confirm if we can proceed to Round 9.

Enter your prompt: Continue

Response:

Round 9:

Analyst 1: Product Quality. Successful startups often have high-quality products that meet or exceed customer expectations.

Analyst 2: Pricing Strategy. Startups with effective pricing strategies that balance profitability and customer acquisition are more likely to succeed.

Analyst 3: Strategic Partnerships. Successful startups often form strategic partnerships that can provide them with resources, market access, or other benefits.

Analyst 4: Customer Engagement. High levels of customer engagement, as indicated by metrics like usage frequency or session length, can indicate a successful startup.

Voting Results:

Product Quality: Analyst 2, 3, and 4 agree. (Upvoted)

Pricing Strategy: Analyst 1, 3, and 4 agree. (Upvoted)

Strategic Partnerships: Analyst 1, 2, and 4 agree. (Upvoted)

Customer Engagement: Analyst 1, 2, and 3 agree. (Upvoted)

Please confirm if we can proceed to Round 10.

Enter your prompt: Summarize the upvoted and downvoted features as Python lists, for example, ['upvoted feature1', 'upvoted feature2', ...] and ['downvoted feature1', 'downvoted feature2', ...]. Output only the lists, without an equals sign, and ensure duplicates are removed. Place the two lists consecutively, separated by a newline.

Response:

```
['Revenue Growth', 'Team Experience', 'Scalability', 'Intellectual Property', 'Market Penetration', 'Customer Retention Rate', 'Gross Margin', 'Funding Received', 'Business Model Viability', 'Product/Market Fit', 'Competitive Advantage', 'User Growth Rate', 'Churn Rate', 'Unit Economics', 'Market Trends', 'Customer Satisfaction Score (CSAT)', 'Financial Health', 'Network Effects', 'Regulatory Environment', 'Technology Adoption Rate', 'Exit Strategy', 'Customer Lifetime Value (CLTV)', 'Market Share', 'Product Development Cycle', 'Brand Strength', 'Sales Efficiency', 'Operational Efficiency', 'Innovation Rate', 'Customer Acquisition Strategy', 'Profit Margin', 'Market Volatility', 'Employee Satisfaction', 'Product Quality', 'Pricing Strategy', 'Strategic Partnerships', 'Customer Engagement']
```

```
[]
```

## A.6 LLM critic for generated idea features

Conduct an in-depth critique session led by a distinguished expert in entrepreneurship and venture capital, focusing on a structured analysis of two provided lists: one featuring upvoted characteristics deemed potentially indicative of a startup idea's potential for success, and the other listing downvoted characteristics considered less critical for a startup's success. The expert's task is to re-evaluate these features, assigning a significance level to each, regardless of their original classification as upvoted or downvoted. This exercise recognizes that features initially deemed of lesser importance may hold significant value upon closer examination, and vice versa.

The significance level is determined using a refined scoring scale:

- **\*\*0.9 to 1.0\*\***: Essential - Indispensable for a startup idea's success, a characteristic without which success is significantly harder to achieve.
- **\*\*0.8 to 0.89\*\***: Highly Important - Greatly contributes to success, though not strictly essential.
- **\*\*0.7 to 0.79\*\***: Important - Positively influences success, a trait that benefits startup ideas.

- **0.6 to 0.69**: Moderately Important - Useful but not critical, a trait that can aid success in certain contexts.
- **0.5 to 0.59**: Somewhat Important - May influence success in limited scenarios, not broadly crucial.
- **Below 0.5**: Of Limited Importance - Has minimal impact on a startup idea's ability to succeed.

For each session, the expert examines a selection of features from both the upvoted and downvoted lists. They will:

1. Assign a significance score to each feature, applying the scoring scale to accurately reflect its importance in a startup idea's success.
2. Provide comprehensive justifications for each score, drawing on a wealth of experience, empirical research, industry trends, and observed outcomes in the startup world. These justifications should elaborate on the reasoning behind the assigned importance, offering insights into the feature's impact on startup success.

The objective is to challenge initial perceptions and uncover the true value of each feature, promoting a nuanced understanding of what contributes to or detracts from a startup idea's success. This re-evaluation allows for a critical reassessment of features, acknowledging that the context, combination of traits, and unique circumstances of each startup endeavor can shift the importance of these characteristics.

Upon completing the analysis of all features, the expert reflects on the findings, discussing any patterns, surprises, and the interplay between different characteristics. This reflection aims to synthesize insights into how various features combine to influence a startup's success trajectory, offering strategic guidance for entrepreneurs, investors, and those supporting the startup ecosystem.

This critique session is designed to yield a sophisticated, evidence-based perspective on the factors that truly matter for startup success, enriching the discourse on effective entrepreneurship and informed venture capital investment.

Input:

### An example response

Given that there are no downvoted characteristics provided, I will proceed with the analysis of the upvoted characteristics.

1. **Revenue Growth (0.9)**: Essential for a startup's success as it indicates the business's ability to generate increasing income over time. It is a key indicator of market acceptance and product viability.
2. **Team Experience (0.85)**: Highly important as experienced teams are more likely to navigate challenges effectively, understand market dynamics, and make informed strategic decisions.
3. **Scalability (0.9)**: Essential for startups aiming for exponential growth. A scalable business model allows for increased revenue with minimal incremental cost.
4. **Intellectual Property (0.7)**: Important as it can provide a competitive edge and protect against imitation, but not essential in all industries or business models.

5. **\*\*Market Penetration (0.8)\*\***: Highly important as it reflects the startup's ability to acquire a significant portion of its target market, indicating product-market fit and competitive strength.
6. **\*\*Customer Retention Rate (0.85)\*\***: Highly important because retaining customers is often more cost-effective than acquiring new ones, and high retention rates suggest customer satisfaction and product value.
7. **\*\*Gross Margin (0.8)\*\***: Highly important as it indicates profitability potential and financial health, but not strictly essential if other funding sources are available in early stages.
8. **\*\*Funding Received (0.75)\*\***: Important because adequate funding supports growth initiatives, but not always critical if the startup can generate sufficient revenue or bootstrap effectively.
9. **\*\*Business Model Viability (0.95)\*\***: Nearly indispensable; without a viable business model, long-term success is unlikely regardless of other factors.

10-36...

Reflecting on these scores reveals that while some features like 'Business Model Viability', 'Revenue Growth', and 'Scalability' are nearly indispensable for startup success, others like 'Intellectual Property' and 'Funding Received' are important but not always critical. This underscores the importance of a balanced approach to startup development, where multiple factors are considered and optimized for success. It also highlights that while some features may be more universally significant, the context-specific nature of startups means that the importance of certain characteristics can vary depending on industry, market conditions, and individual business models.

Enter your prompt: Continue with the remaining features

Response:

10. **\*\*Product/Market Fit (1.0)\*\***: Essential for startup success. Without a product that meets market needs, it's unlikely the startup will succeed.
11. **\*\*Competitive Advantage (0.85)\*\***: Highly important as it allows a startup to differentiate itself from competitors and potentially command higher prices or secure more customers.
12. **\*\*User Growth Rate (0.8)\*\***: Highly important as it indicates market acceptance and the potential for scalability.
13. **\*\*Churn Rate (0.8)\*\***: Highly important because high churn rates can indicate customer dissatisfaction and undermine growth efforts.
14. **\*\*Unit Economics (0.9)\*\***: Essential as they provide insight into the profitability of individual transactions, which is crucial for long-term financial sustainability.
15. **\*\*Market Trends (0.75)\*\***: Important because understanding and leveraging market trends can provide competitive advantages and help predict future demand.

16-36...

Reflecting on these scores, we see that while some features like 'Product/Market Fit' and 'Unit Economics' are essential for startup success, others like 'Market Trends' are merely important but not critical in all cases. This highlights the importance of understanding the specific context in which a startup operates, as different industries, markets, and business

models may place varying levels of importance on these characteristics.  
 Enter your prompt: Continue with the remaining features  
 Response:

17. **\*\*Customer Satisfaction Score (CSAT) (0.8)\*\***: Highly important as it provides direct feedback on customer satisfaction, which can influence retention and word-of-mouth referrals.
18. **\*\*Financial Health (0.9)\*\***: Essential for long-term sustainability and growth. Poor financial health can lead to insolvency and limit opportunities for expansion.
19. **\*\*Network Effects (0.7)\*\***: Important in certain industries where each additional user adds value to the network, but not universally applicable across all startups.
20. **\*\*Regulatory Environment (0.75)\*\***: Important as regulatory changes can significantly impact a startup's operations, but its importance varies greatly depending on the industry.
21. **\*\*Technology Adoption Rate (0.65)\*\***: Moderately important as it can indicate market readiness for a product, but not always critical if the startup is targeting early adopters or niche markets.
- 22-36...

Reflecting on these scores, we see that while some features like 'Financial Health' are essential for startup success, others like 'Technology Adoption Rate' are moderately important but not critical in all cases. This highlights the importance of understanding the specific context in which a startup operates, as different industries, markets, and business models may place varying levels of importance on these characteristics.  
 Enter your prompt: Continue with the remaining features  
 Response:

22. **\*\*Exit Strategy (0.6)\*\***: Moderately important as it can influence investor interest and strategic decision-making, but not directly related to the operational success of a startup.
23. **\*\*Customer Lifetime Value (CLTV) (0.85)\*\***: Highly important as it helps determine the financial value of each customer and informs marketing and customer retention strategies.
24. **\*\*Market Share (0.8)\*\***: Highly important as it indicates competitive position and market acceptance, but startups can still succeed in niche markets with smaller shares.
25. **\*\*Product Development Cycle (0.75)\*\***: Important because faster cycles can lead to quicker iterations and improvements, but not always critical depending on the industry and product complexity.
- 26-36...

Reflecting on these scores, we see that while some features like 'Customer Lifetime Value' are highly important for startup success, others like 'Exit Strategy' are moderately important but not critical in all cases. This highlights the importance of understanding the specific context in which a startup operates, as different industries, markets, and business models may place varying levels of importance on these characteristics.  
 Enter your prompt: Continue with the remaining features  
 Response:



26. **\*\*Brand Strength (0.7)\*\***: Important as it can influence customer loyalty and pricing power, but not always critical for early-stage startups that are still establishing their brand.

27. **\*\*Sales Efficiency (0.8)\*\***: Highly important as it directly impacts profitability and growth potential.

28. **\*\*Operational Efficiency (0.85)\*\***: Highly important because inefficiencies can lead to unnecessary costs and hinder scalability.

29. **\*\*Innovation Rate (0.75)\*\***: Important as it can provide a competitive edge and drive growth, but not always critical depending on the industry and market dynamics.

30-36...

Reflecting on these scores, we see that while some features like 'Operational Efficiency' are highly important for startup success, others like 'Brand Strength' are important but not critical in all cases. This highlights the importance of understanding the specific context in which a startup operates, as different industries, markets, and business models may place varying levels of importance on these characteristics.

Enter your prompt: Continue with the remaining features

Response:

30. **\*\*Customer Acquisition Strategy (0.85)\*\***: Highly important as it directly impacts the startup's ability to attract and retain customers, which is crucial for growth.

31. **\*\*Profit Margin (0.9)\*\***: Essential because it indicates the financial health of the startup and its potential for sustainable growth.

32. **\*\*Market Volatility (0.7)\*\***: Important as it can impact a startup's stability and predictability, but its significance varies greatly depending on the industry and market conditions.

33. **\*\*Employee Satisfaction (0.75)\*\***: Important because satisfied employees are more likely to be productive and contribute to a positive company culture, but not always critical in early stages when roles often require flexibility and adaptability.

34-36...

Reflecting on these scores, we see that while some features like 'Profit Margin' are essential for startup success, others like 'Market Volatility' are important but not critical in all cases. This highlights the importance of understanding the specific context in which a startup operates, as different industries, markets, and business models may place varying levels of importance on these characteristics.

Enter your prompt: Continue with the remaining features

Response:

34. **\*\*Product Quality (0.9)\*\***: Essential because it directly impacts customer satisfaction and retention, as well as the startup's reputation in the market.

35. **\*\*Pricing Strategy (0.8)\*\***: Highly important as it can influence sales volume, revenue, and profitability, but its significance can vary depending on the industry and target market.

36. **\*\*Strategic Partnerships (0.75)\*\***: Important because they can provide access to resources, customers, or expertise that a startup might not have on its own, but not always critical for success.

37. **\*\*Customer Engagement (0.85)\*\*:** Highly important as engaged customers are more likely to become repeat customers and advocates for the brand.

Reflecting on these scores, we see that while some features like 'Product Quality' are essential for startup success, others like 'Strategic Partnerships' are important but not critical in all cases. This highlights the importance of understanding the specific context in which a startup operates, as different industries, markets, and business models may place varying levels of importance on these characteristics.

In conclusion, this exercise underscores that there is no one-size-fits-all approach to startup success. Different factors will hold varying degrees of importance based on a multitude of variables including industry dynamics, market conditions, team capabilities among others. Therefore it is crucial for entrepreneurs to understand their unique context and strategically prioritize their efforts accordingly.

Enter your prompt: Given the detailed analysis of startup characteristics and their significance to success, create a Python list of tuples summarizing each feature along with its assigned importance score and a brief justification. The list should follow this format:

```
[
("Feature Name", Importance Score, "Justification"),
...
]
```

Only include the feature name, its assigned importance score based on the refined scoring scale, and a concise justification highlighting why the feature is rated as such. The justification should briefly capture the essence of the expert's analysis, focusing on the feature's impact on a startup's potential for success. This list will serve as a compact, at-a-glance reference for entrepreneurs, investors, and others interested in the critical factors influencing startup success. Proceed with this task, ensuring to accurately reflect the comprehensive critique session's outcomes Response:

Here is the complete Python list of tuples summarizing all the features, their importance scores, and brief justifications:

```
"python summary = [ ('Revenue Growth', 0.9, 'Indicates business ability to
generate increasing income over time.'), ('Team Experience', 0.85, 'Experi-
enced teams are more likely to navigate challenges effectively.'), ('Scal-
ability', 0.9, 'A scalable business model allows for increased revenue
with minimal incremental cost.'), ('Intellectual Property', 0.7, 'Pro-
vides a competitive edge but not essential in all industries or business
models.'), ('Market Penetration', 0.8, 'Reflects startup's ability to ac-
quire a significant portion of its target market.'), ('Customer Retention
Rate', 0.85, 'High retention rates suggest customer satisfaction and prod-
uct value.'), ('Gross Margin', 0.8, 'Indicates profitability potential
and financial health.'), ('Funding Received', 0.75, 'Supports growth ini-
tiatives but not always critical if the startup can generate sufficient
revenue or bootstrap effectively.'), ('Business Model Viability', 0.95,
'Without a viable business model long-term success is unlikely regardless
of other factors.'), ('Product/Market Fit', 1.0, 'Without a product that
meets market needs it's unlikely the startup will succeed.'), ('Competitive
Advantage', 0.85, 'Allows a startup to differentiate itself from competi-
tors and potentially command higher prices or secure more customers.'),
```

```
(('User Growth Rate', 0.8, 'Indicates market acceptance and the potential
for scalability.' ), ('Churn Rate', 0.8, 'High churn rates can indicate
customer dissatisfaction and undermine growth efforts.' ), ('Unit Eco-
nomics', 0.9, 'Provide insight into the profitability of individual trans-
actions.' ), ('Market Trends', 0.75, 'Understanding and leveraging market
trends can provide competitive advantages.' ), ('Customer Satisfaction
Score (CSAT)', 0.8, 'Provides direct feedback on customer satisfaction.'),
('Financial Health', 0.9, 'Poor financial health can lead to insolvency
and limit opportunities for expansion.'), ('Network Effects', 0.7, 'Import-
tant in certain industries where each additional user adds value to the
network.'), ('Regulatory Environment', 0.75, 'Regulatory changes can sig-
nificantly impact a startup's operations.'), ('Technology Adoption Rate',
0.65, 'Can indicate market readiness for a product.'), ('Exit Strategy',
0.6, 'Can influence investor interest and strategic decision-making.'),
('Customer Lifetime Value (CLTV)', 0.85, 'Helps determine the financial
value of each customer and informs marketing strategies.'), ('Market
Share', 0.8, 'Indicates competitive position and market acceptance.'),
('Product Development Cycle', 0.75, 'Faster cycles can lead to quicker
iterations and improvements.'), ('Brand Strength', 0.7, 'Can influence cus-
tomer loyalty and pricing power.'), ('Sales Efficiency', 0.8, 'Directly
impacts profitability and growth potential.' ), ('Operational Efficiency',
0.85, 'Inefficiencies can lead to unnecessary costs and hinder scalabil-
ity.' ), ('Innovation Rate', 0.75, 'Can provide a competitive edge and
drive growth.' ), ('Customer Acquisition Strategy', 0.85, 'Directly im-
pacts the startup's ability to attract and retain customers.' ), ('Profit
Margin', 0.9, 'Indicates the financial health of the startup.' ), ('Market
Volatility', 0.7, 'Can impact a startup's stability and predictability.' ),
('Employee Satisfaction', 0.75, 'Satisfied employees are more likely to be
productive and contribute to a positive company culture.' ), ('Product
Quality', 0.9, 'Directly impacts customer satisfaction and retention.' ),
('Pricing Strategy', 0.8, 'Can influence sales volume, revenue, and prof-
itability.' ), ('Strategic Partnerships', 0.75, 'Can provide access to
resources, customers, or expertise that a startup might not have on its
own.' ), ('Customer Engagement', 0.85, 'Engaged customers are more likely
to become repeat customers and advocates for the brand.') ] ``
```

## A.7 Profile summarizer

Generate a comprehensive summary from the provided JSON string, adhering to specific guidelines. Begin with a succinct mention of the individual's age, gender, and current location. Progress to an education summary, detailing each institution, degree type, major, and study periods; calculate and mention the total number of educational experiences alongside the duration of each. For employment, include concise descriptions for each role, noting the employer, job title, and employment periods, with calculations on the total number of jobs, their individual durations, and any gaps leading up to the founding of their own company. Highlight skills and summarize articles without omission. If information is missing, use the 'description' section to fill in gaps. Ensure the summary is straightforward, avoiding repetition, and integrates all necessary details for a complete overview. The final output should be a concise paragraph with no empty lines. In the end add the 3 following questions:

1. The universities where the founder studied, along with their respective global rankings according to the latest QS World University Rankings:
2. The subjects studied at university (only degree awarding subjects):
3. The jobs worked prior to founding (position title and employer):

If something is not explicitly mentioned in the provided JSON string, just answer N/A.

## JSON STRING

### A.8 Founder features generation prompt

Imagine three different Venture Capital analysts are trying to find the successful features of founders that allow their startups to be successful. Given three example founders and whether or not they succeeded, the expert analysts will brainstorm the analysis step by step, reasoning carefully and taking all facts into consideration. In the first step all experts will write down their thinking stating clearly a list of pros and cons for each of the founders (be decisive in the answers), then share it with the group. They will each critique their response, and all the responses of others. Include both factors related to general trends of successful founders but also features unique to the founders given. After collectively agreeing on the list of pros and cons for each founder, in the next step all the experts will each write a list of features 4 to 6 bullet points which they think make a founder successful. Each feature should be explained in no more than 10 words. They will then share it with the group. They will each critique their response, and all the responses of others. They will keep going through steps until they reach their conclusion taking into account the thoughts of the other experts. If at any time they realize that there is a flaw in their logic they will backtrack to where that flaw occurred. If any expert realizes they're wrong at any point then they acknowledge this and start another train of thought. At the end of the discussion output a list of successful features for a founder (4 to 6 bullet points). Age should be used in the context of experience. Do not discriminate based on gender, age or nationality. The founder profiles are as follows: **<NEAREST\_FOUNDERS>**

### A.9 Evaluation of features of similar founder features combined with unsupervised founder features

Imagine three different Venture Capital analysts are rating a founder profile from 0 to 1. They will embark on a comprehensive analysis, incorporating a dual approach that involves specific steps tailored to evaluating founder profiles, denoted as \$STEPS\$, and considering a set of defined attributes critical to a founder's potential for success. The analysis will proceed systematically, with each step and attribute carefully examined for its impact on the founder's capabilities and potential to succeed in the entrepreneurial world.

The steps in the analysis are outlined in \$STEPS\$, which will guide the evaluation process. In addition to these steps, the analysts will assess the founder based on a range of attributes, such as leadership skills, industry experience, adaptability, vision, and resilience, among others. For each attribute, the experts will discuss its presence or absence in the founder's profile, decisively labeling it as a pro or con. They will then assign a score from 0 to 1 based on the likelihood of each attribute contributing to the founder's success, keeping in mind that the average founder should fall between 0.4 to 0.8. Scores of 0.9 or above are reserved for exceptionally unique qualities that fewer than 1

In cases where direct evidence of a particular skill or trait is lacking, analysts are encouraged to infer its existence as much as possible, with the option to assign scores below 0.4 for unsupported attributes. Throughout this process, each expert will present their analysis, critique the assessments of their peers, and engage in a constructive dialogue aimed at refining their evaluations. This iterative process allows for reevalua-

tion and adjustment of scores if logical inconsistencies are identified or if an expert acknowledges a mistake in their initial assessment.

Age and nationality will be considered in the context of experience and diversity, ensuring that the evaluation process is free from discrimination and focuses solely on the founder's merits and potential.

List of weighted features: \$WEIGHTED\_FEATURES\$

Structure of output:

For each step/attribute:

- Expert 1: ... likelihood:
- Expert 2: ... likelihood:
- Expert 3: ... likelihood:
- Discuss and agree

After all steps and attributes have been thoroughly evaluated:

- Discuss overall likelihood of success and display a compiled list of pros and cons.

Overall likelihood of success: Output as only a single number

Here is the profile:

#### A.10 Idea features generation prompt

Imagine three different Venture Capital analysts are trying to find the features of profitable startup ideas. Given three startups and whether or not they succeeded, the expert analysts will brainstorm the analysis step by step, reasoning carefully and taking all facts into consideration. In the first step all experts will write down their thinking stating clearly a list of pros and cons for each of the ideas (be decisive in the answers), then share it with the group. They will each critique their response, and all the responses of others. Include both factors related to general trends of successful ideas but also features unique to the ideas given. After collectively agreeing on the list of pros and cons for each idea, in the next step all the experts will each write a list of features 4 to 6 bullet points which they think make an idea successful. Each feature should be explained in no more than 10 words. They will then share it with the group. They will each critique their response, and all the responses of others. They will keep going through steps until they reach their conclusion taking into account the thoughts of the other experts. If at any time they realize that there is a flaw in their logic they will backtrack to where that flaw occurred. If any expert realizes they're wrong at any point then they acknowledge this and start another train of thought. At the end of the discussion output a list of successful features for an idea (4 to 6 bullet points). The company profiles are as follows: **<NEAREST\_IDEAS>**

#### A.11 Evaluation of selected idea features

Imagine three different Venture Capital analysts are rating an idea from 0 to 1. They will brainstorm the analysis step by step, reasoning carefully and taking all facts into consideration. The steps in analysis are: **<GENERATED\_FEATURES>**. Iterate through this process until all the steps are completed. For each step all experts will write down their thinking stating clearly whether or not they think the specific attribute is a pro or con (be decisive in the answers) for the idea and give a score of the likelihood of success for that factor from 0 to 1, then share it with the

group. Do this until all the steps have been exhausted. For each factor, the 'average' idea should be rated between 0.4 to 0.8. Only award scores of 0.9 or above if this is something truly unique about the idea. If there is no evidence of a particular factor then try to infer it as much as possible and feel free to give a score less than 0.4. Support ideas that contribute positively to societal well-being. Illegal ideas and unethical ideas along with environmental harm should always receive 0. They will each critique their response, and all the responses of others. If at any time they realize that there is a flaw in their logic they will back-track to where that flaw occurred. If any expert realizes they're wrong at any point then they acknowledge this and start another train of thought. At the end of the discussion the experts will need to collectively agree on a score from 0 to 1 for the likelihood of this idea to succeed and output this single number only.

Structure of output

For each step (iterate until exhausted)

Expert 1: ... likelihood:

Expert 2: ... likelihood:

Expert 3: ... likelihood:

Discuss and agree

(After all steps have been exhausted)

Discuss overall likelihood of success

Overall likelihood of success: Output as only a single number

Here is the idea: **<INPUT\_IDEA>**

## A.12 Founder-idea fit evaluation

Given two sets of pros and cons, one pertaining to a founder and the other to a startup idea, your task is to analyze and synthesize these lists to evaluate the founder-idea fit. This involves combining the strengths and weaknesses of both the founder and the idea to create a comprehensive overview of their compatibility and potential for success. Follow the steps below to achieve this:

### 1. Review and Understand Individual Lists:

- First, carefully read through the pros and cons of both the founder and the idea to fully understand their individual strengths and weaknesses.

### 2. Identify Synergies:

- Look for areas where the founder's strengths could amplify the idea's prospects. For example, the founder's strong technical background and adaptability might enhance the idea's potential for integrating with various vehicle dashboards and infotainment systems, or address challenges in processing billions of data points.

### 3. Address Weaknesses:

- Consider how the founder's cons might affect the idea's implementation or success, and vice versa. Discuss whether the founder's gaps in employment history or lack of specific evidence regarding contributions could impact the business model's viability or ethical standards in handling data privacy concerns.

4. Evaluate Compatibility:
  - Analyze how the founder's skills, experience, and attributes align with the needs and challenges of the idea. Assess whether the founder's leadership skills and industry experience can navigate the challenges of securing partnerships with automotive manufacturers or convincing consumers about the solution's effectiveness.
5. Propose Mitigations for Identified Cons:
  - Suggest strategies or actions that could mitigate the identified cons, leveraging the strengths from both lists. For instance, how the founder's diverse skill set and demonstrated persistence could address challenges in licensing processes or competition.
6. Conclude with a Final Founder-Idea Fit Assessment and Score:
  - Combine the insights from the above steps to create a final pros and cons list that reflects the founder-idea fit. This list highlights synergies and mitigated cons, providing a comprehensive view of potential challenges and strengths.
7. Assign a final score from 0 to 1 to evaluate the potential success of the founder given the idea. The scoring is defined as follows:
  - 0-0.25: Very Poor Fit - Significant misalignments between the founder's capabilities and the idea's requirements suggest a high likelihood of failure. Not recommended for investment.
  - 0.26-0.50: Poor Fit - While there are some matching elements, substantial gaps in compatibility or capability make success unlikely. Investment should be approached with caution.
  - 0.51-0.75: Moderate Fit - The founder has several strengths that align well with the idea's needs, but there are still notable challenges to overcome. Considered for investment with targeted support and strategy adjustments.
  - 0.76-0.90: Good Fit - Strong alignment between the founder's skills and the idea's requirements, with few manageable challenges. This range indicates a promising potential for success and is a favorable investment opportunity.
  - 0.91-1.00: Excellent Fit - The founder and the idea are highly compatible, with synergies that significantly outweigh any potential challenges. Represents a high potential for success and is strongly recommended for investment.

Remember, your analysis should not only identify direct correlations between the founder's and idea's qualities but also consider how they can collectively address challenges and leverage opportunities. Your conclusion should offer a nuanced view of the founder-idea fit, acknowledging potential hurdles while highlighting the strengths that could lead to successful implementation and growth of the idea.