BUSINESS CLUB

KSHITIJ2024

INDIAN CASE CHALLENGE 2024

The Amigos

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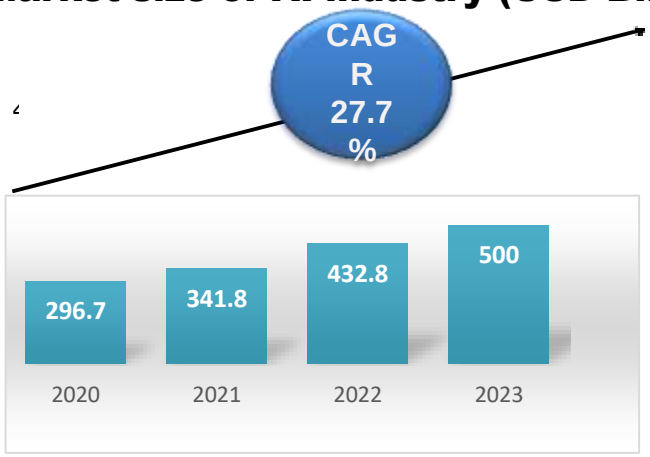
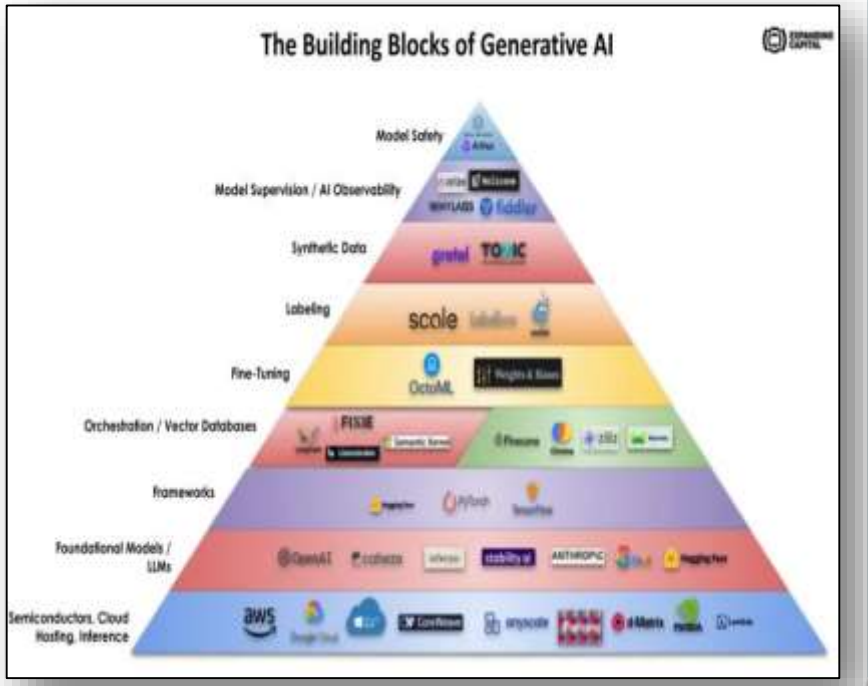
Executive Summary

Industry Overview	• The AI industry is growing at a CAGR of 27.7%. • By 2030, AI could contribute up to 26% of some economies.
Revenue Model and Feasibility	• Segmented revenue models for Customers, Developers and Enterprises with alternative revenue streams. • Financial and feasibility analysis of the revenue model.
Go-To-Market Strategy	• Building up on pre-existing KPIs. • Community based targeting of Customers and Developers.
Oversaturation Issue	• Introduction of a User Review Based System. • Weightage system to rate the Models.
AI Chip Industry & Challenges	• The AI Semiconductor industry is growing at a CAGR of 18%. • AI chips would account for up to 20% of all Semiconductor demand.
Our Strategy	• Phase 1 which encompass Target Identification. • Phase 2 which consists of Due Diligence and Assessment • Phase 3 which consist of Integration of startup in openAI and it’s talent retentatoin
Viability	• Feasibility Analysis of the various Phases undertaken. • Impact and Productivity of various metrics used.

Market size of AI industry (USD Billions)



PwC's Global Artificial Intelligence Study estimates that AI could contribute up to $15.7 trillion to the global economy by 2030, representing over 26% of GDP growth for some local economies.



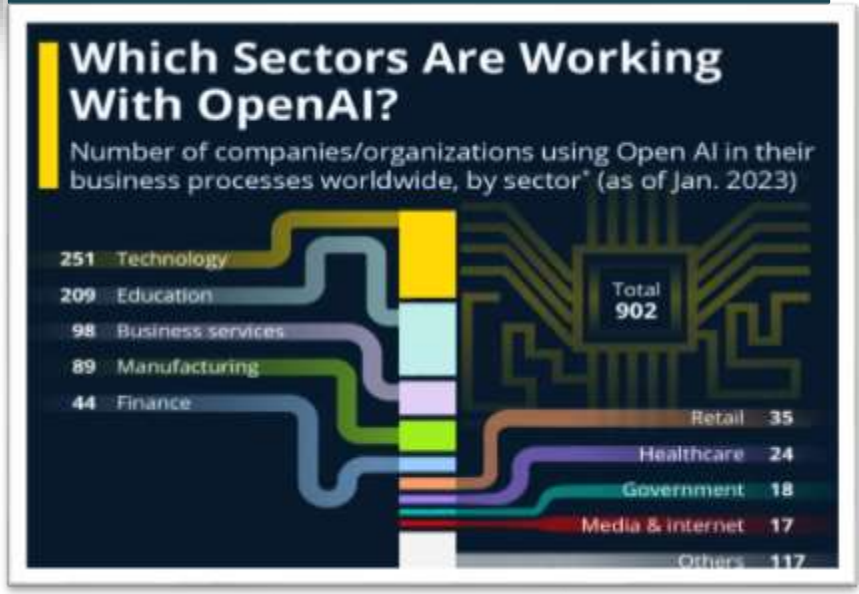
OpenAI

OpenAI is an artificial intelligence research laboratory consisting of the for-profit OpenAI LP and its non-profit parent company, OpenAI Inc. It was founded in December 2015.

- ✓ OpenAI valuation in 2024 is **$100 billion** which is approximately **4%** of the total valuation and market share of the entire artificial intelligence industry of **$500 billion**.
- ✓ Open AI's revenue is predicted to grow 5x and reach **$1 billion in 2024.**

OpenAI Statistics

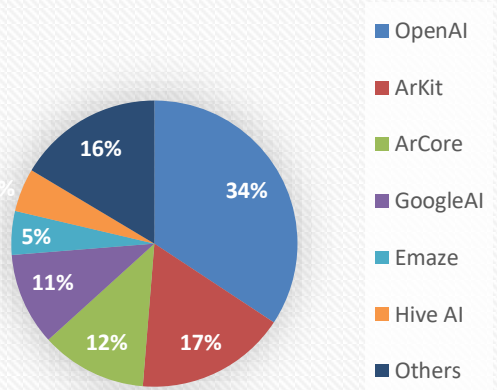
Total Visits **1.7B**	Pages per Visit **5.34**	Avg Visit Duration **00:05:21**
Global Rank **20(+4)**	Employees **501-1000**	Bounce Rate **35.71%**



Source — 1. https://www.demandsage.com/chatgpt-statistics/ 2. https://www.enterpriseappstoday.com/stats/openai-statistics.html

Competitor	Strength -1	Strength-2	OpenAI Advantage
Anthropic	*Safety: Prioritizes safe and unbiased responses, appealing to risk-averse users.*	*Factualness: Focuses on accurate information retrieval and knowledge integration.*	***Innovation: OpenAI pushes the boundaries in research with cutting-edge models like GPT-4.***
Cohere	*Business Utility: Offers practical "Command Models" for tasks like code generation, and data analysis.*	*Enterprise Focus: Tailored APIs and support cater to business needs and scalability.*	***:Versatility: OpenAI models handle a wider range of tasks beyond business functions.***
Google AI	*Computing Power: Access to vast Google Cloud resources for training large models.*	*Multimodal Expertise: Pioneers in combining text, image, for richer understanding.*	***Independent Focus: OpenAI is solely dedicated to AI research and while Google has broader goals***

Market Share Analysis

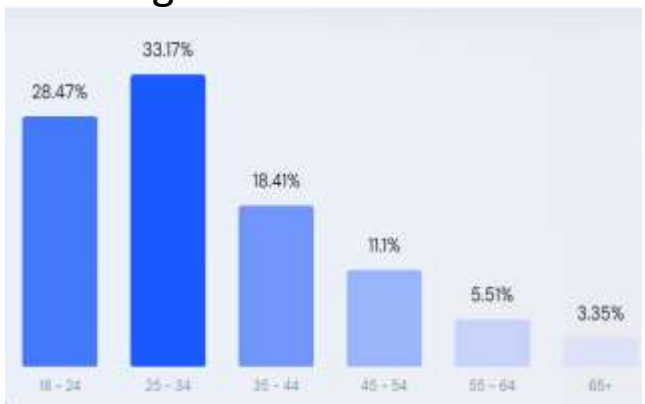


OpenAI Products

- GPT-3
- GPT-2
- ChatGPT
- DALL-E
- DALL-E

OpenAI Userbase

Age Distribution



Top Country

Gender Distribution

44.78%

55.22%

Source - https://www.cbinsights.com/company/openai/alternatives-competitors

INDIVIDUAL PLAN

DESC	REGULAR	PRO	PREMIUM
GPTs per Day	3	Unlimited	Unlimited
Customization	Limited	Full	Full
plugins per month	3	Unlimited	Unlimited
word limit of Prompt	200	NO	NO
Ads	✓	✗	✗
Cost	FREE	$18	$20

DEVELOPER PLAN

DESC	REGULAR	PRO	PREMIUM
Submit GPTs per month	1	Unlimited	Unlimited
User Plan	Single	Single	3
Priority Support	✗	Anytime	Anytime
Revenue Share	✗	Only on Gpts	Gpts as well as Ads
Extra Features	✗	Admin Console	Dedicated Admin Console and Analytics Dashboard
Cost	FREE	$18	$20

Enterprise

- ***Offer:*** Custom solutions for businesses (e.g., custom models, API access, dedicated support).
- **Target**: Large companies, agencies, and research institutions.
- **Custom project contracts:** Tailored solutions on client needs and budget.
- **API access fees:** Tiered pricing based on API usage and data volume.
- White-label licenses: Allow companies to integrate GPT-4 into their own products and services.

Ads Revenue

- **GPT-specific advertising:** ChatGPT could analyze the capabilities and functionalities of individual GPTs within the store.
- Contextual in-GPT advertising: While GPTs generate content based on user prompts, ChatGPT could insert relevant ads within the generated text.
- GPT-powered ad creation: Businesses could utilize ChatGPT to generate ad copy to the target audience of a particular GPT in the store.

Insights into GPT's User-Driven Development

The total count of engaged users during the final month at OpenAI reached 200 million.1 million individuals (0.5% of users) form the core, driving Pro/Premium-powered development of GPT and its plugins. Another 0.5 million from Premium upgrades and 5 million using the free plan bring the total developer to 6.5 million, showcasing the significant user-diven development potential within the GPT ecosystem.

REVENUE FROM CONSUMERS

Consumer Segments	Estimated Consumers	Subscription Rate	Subscribed Customer	Estimated Revenue
High Income Country (25% Customers)	(50 millions Customers)	(40%)	15 millions	*Yearly Revenue (Median Price)= (20*15)*12 = 3600 millions = 3.6 billions*
Low Income Country (75% Customers)	(150 millions Customers)	(10%)	7.5 millions	*Yearly Revenue (Median Price)= (20*7.5)*12 = 1800 millions = 1.8 billion*

REVENUE FROM DEVELOPERS

Estimated Developers	Developer Segments	Estimated Revenue
Total No of Developer = 4 millions . Each developers uploading 4 models each per year, the cost per upload is $30	(1.5 millions Pro and premium Combined)	Average Subscription price $30 . Total Revenue = $(30*15)*12 = $480 million .
	(free developers)	

REVENUE FROM ENTERPRISE

Employees	Estimated Number of Companies	Estimated Number of Total Employees
10000	147	1470k
3000	235	705k
750	341	255750
50	442	22100

The total number of employees is 2,452,850. At a rate of $15 per month, the overall income amounts to $(2,452,850 * 15 * 12), which equals $441.5 million.

REVENUE FROM ADVERTISEMENTS

- **Estimated ad revenue = Ad revenue per user * Number of users * Commission rate**
- Estimated ad revenue = $0.2 * 200 million users * 0.5
- Estimated ad revenue = **$20 million**

Expenditure and Operation Cost

Operating GPT-4 incurs a daily cost of $700,000, totaling $260 million annually.

+

Based on the data from comparable companies, we estimate the fixed costs to be around $200 million

Source - https://www.thinkimpact.com/openai-statistics/https://www.businessinsider.in/tech/news/chatgpt-could-cost-over-700000-per-day-to-operate-microsoft-is-reportedly-trying-to-make-it-cheaper-/articleshow/99637548.cmshttps://explodingtopics.com/blog/chatgpt-users

ESTIMATED REVENUE

REVENUE FROM CONSUMERS + REVENUE FROM DEVELOPERS+ REVENUE FROM ENTERPRISE + REVENUE FROM ADVERTISEMENTS - EXPENDITURE = (3.6 + 1.8) BILLIONS + 480 MILLIONS + 441.5 MILLIONS + 20 MILLIONS – (260+200) MILLIONS = $5.88 Billions

Marketing Channel Distribution

DEVELOPERS

I. Early access programs
II. Hackathons and challenges
III. Comprehensive documentation and tutorials
IV. Competitive revenue sharing model

GENERAL USERS

i. Focus on problem-solving
ii. Intuitive user interface
iii. Freemium model
iv. Curated collections
v. Educational content and case studies

Key Tactics

Community Building
- Forum and Q&A platforms
- User-generated content contests
- Regular updates and roadmap transparency

Performance
- Transparent usage metrics
- Clear user reviews and rating systems

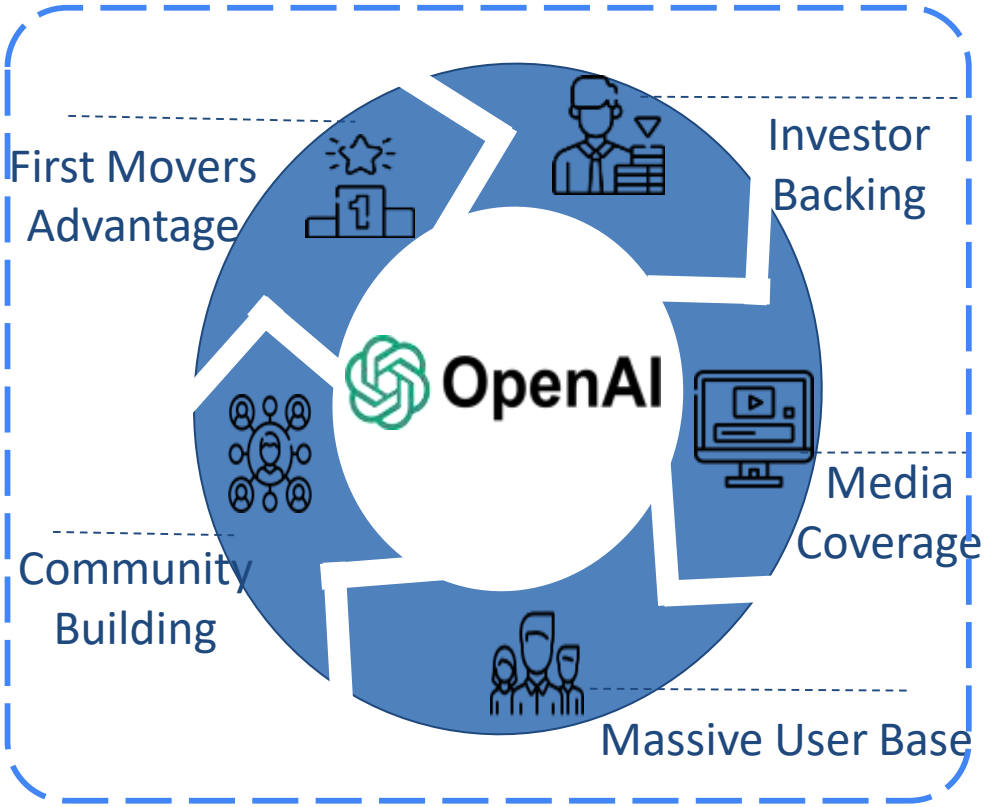
Data Privacy
- Clearly communicate data usage and privacy policies
- Offer multiple deployment options

Bounce Rate Analysis :

- Track bounce rates on different store sections (landing pages, pricing, user dashboards).
- Analyze drop-off points for both developers and users (e.g., complex registration, unclear value proposition).

Calibrating Success

i. Active developers and users
ii. Number of uploaded GPTs and plugins
iii. Revenue generated from purchases and subscriptions
iv. User reviews and feedback



The GPT builder could make it relatively easy for anyone to create and upload a GPT, even if it is low-quality or unoriginal. This could lead to a flood of low-quality GPTs in the store, making it difficult for users to find good ones. To overcome this problem of oversaturation we have the following recommendations

Formation of the Review Committee

Explanation: A review committee from OpenAI side will examine all models prior to the publication of any specific plugin or model.

Example: If a developer creates a model without plagiarism and follows the guidelines effectively, and initially pays $10 for uploading, they will receive an $8 refund. However, if plagiarism is detected, no refund will be issued.

Limitations

- additional cost for OpenAI in terms of paying their salaries
- potential risk of bias among these reviewers towards specific groups of people.
- This procedure will require a significant amount of time.

Evaluating Model Engagement through User Interaction Analysis

Explanation: OpenAI will conduct quarterly evaluations for each model by assessing the ratio of the total number of questions asked to the number of users who utilized that specific model.

For instance, if two models have the same number of users, let's say 100. However, for Model A, the total number of questions asked is 2000, and for Model B, it's 100. This indicates that, in the case of Model A, a user is asking 20 questions and receiving correct answers, leading to frequent use. Conversely, for Model B, users are not obtaining correct answers, resulting in less usage. Based on these evaluations, models with a rating below 2 will be removed.

Advantages

- **Objective Performance Evaluation**: The method relies on quantitative data, providing an objective assessment of model performance.
- **User-Centric Focus**
- **Resource Optimization**
- **Continuous Improvement**

Quantifying User Interaction

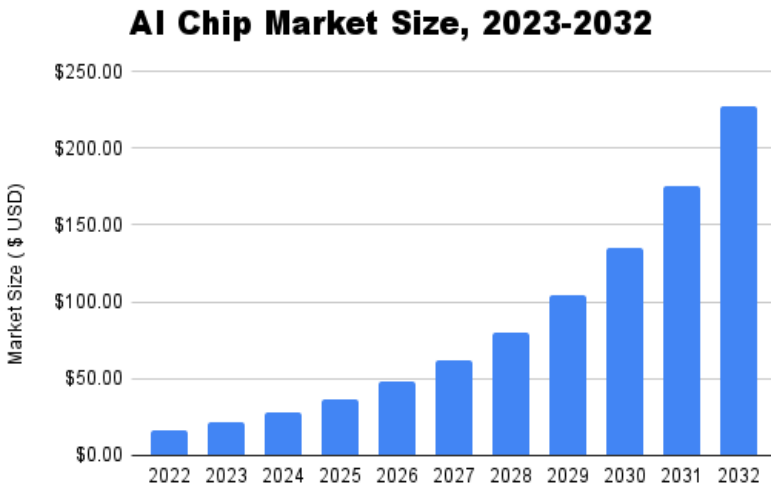
Explanation: To enhance the evaluation process, a user review mechanism will be implemented, incorporating a weighted scoring system to mitigate potential biases. The score will consider both star ratings and the number of users, ensuring credibility and reflecting broader consensus.

A plugin with a 5-star rating from 3 users would receive a score of 5 (rating) + 1.5 (user base) = 6.5.

Conversely, a plugin with a 4-star rating from 5000 users would receive a score of 4 (rating) + 4.5 (user base) = 8.5, indicating its broader appeal and potential effectiveness

Advantages

- Reduce bias by considering both rating and user base.
- Promote authentic assessments by emphasizing widespread adoption.
- Facilitate informed decision-making by providing comprehensive scores.



AI-related semiconductors will see growth of about **18%** annually over the next few years—**5X** greater than the rate for semiconductors used in non-AI applications

AI-related semiconductors could account for almost **20%** of all demand which would translate into about **$67 billion** in revenue

Overall, demand for computing hardware will increase by about **10 to 15%** through 2025

As ASICs enter the market, GPUs will likely become more customized to meet the demands of DL

ASICs built into systems on chips will account for **70%** of demand. FPGAs will represent about **20%** of demand and will be used for applications that require significant customization

If ChatGPT queries grew to a tenth the scale of Google Search, it'd require roughly $48.1 billion worth of GPU initially and about $16 billion worth of chips a year to keep operational ~ Bernstein Research

High-level expertise
- Complexity of Specialized AI Chip Design
- Resource Requirements
- Strategic Decision-Making
- Performance and Customization

High costs
- High Initial Investments
- Funding Challenges for OpenAI
- Exploring Partnerships
- Financial Strategy

Long development cycles
- Extended Development Timeline
- Patience Requirement
- Adaptability to Challenges
- Strategic Planning

Supply chain complexities
- Global Chip Shortage Impact
- Unpredictable Landscape
- Importance of Reliable Partnerships
- Ensuring Consistent Production

CHALLENGES

Architectural innovation
- Limitations of Existing GPUs
- Specialized Needs
- Balancing Act
- Optimizing for Workloads

Time to market
- Extended Timeframe for Market Entry
- Investment in Time and Resources
- Competition with Established Players
- Long-Term Vision

Potential compatibility issues
- Compatibility Concerns
- Adoption Hurdles
- Usability Impact
- Strategic Considerations

Physical design and manufacturing
- Beyond Architecture Challenges
- Intricacies in Physical Layout
- Critical Aspects
- Performance and Reliability

Phase 1: Target Identification

Technological Alignment

- Define specific criteria for alignment with OpenAI's technological requirements.
- Assess compatibility in terms of AI chip design, software integration, and overall technology stack.

Talent Pool

- Define criteria related to the startup's talent pool and expertise in AI chip design.
- Evaluate the startup's team composition, skills, and experience.

Innovation Pipeline

- Consider the startup's innovation pipeline and its alignment with OpenAI's future goals.
- Assess the startup's commitment to continuous improvement and cutting-edge research.

Cultural Fit

- Establish criteria for cultural fit, emphasizing shared values and collaborative work culture.
- Evaluate the alignment of the startup's organizational values with OpenAI's mission.

Market Analysis

Growth Potential

- Evaluate the startup's growth potential in the AI chip design industry.
- Consider factors such as market trends, demand projections, and competitive positioning.

Market Positioning

- Analyze the startup's current market position and competitive landscape.
- Identify potential market gaps that the startup can fill for OpenAI

Qualitative and quantitative analysis	Technological Alignment	Talent Pool	Innovation	Cultural Fit
Cerebras	AI chip design with wafer-scale architecture, 1.4 trillion transistors.	Talented team with expertise in AI chip design.	Demonstrates commitment to continuous improvement and research.	Collaborative and inclusive work culture.
Graphcore	IPU architecture optimized for deep learning and graph algorithms.	Specialized cores for efficient data flow and communication.	Focus on practical AI applications in various industries.	Emphasis on practical AI applications.
Weights	**0.4**	**0.2**	**0.3**	**0.1**
Cerebras (rating out of 10)	9	7	8	7
Graphcore(rating out of 10)	7	9	8	8

Phase 2: Due Diligence and Assessment

Technical Evaluation

Technological Expertise

- Assess the startup's technological capabilities and innovation in AI chip design.
- Evaluate the uniqueness and competitiveness of the technology.

Patent Portfolio

- Examine the startup's patent portfolios related to AI chip design.
- Ensure alignment with OpenAI's strategic interests and freedom to operate.

Alignment with AI Requirements

- Evaluate how well the startup's technology aligns with OpenAI's specific AI requirements.
- Ensure compatibility with existing and future AI projects.

Financial Assessment

Financial Health

- Conduct a financial analysis of the startup's health, considering revenue, profit margins, and cash flow.
- Assess financial stability and sustainability.

Market Valuation

- Determine the market valuation of the startup and its potential impact on the overall acquisition or partnership deal.
- Consider the valuation in the context of OpenAI's budget and financial goals.

Cerebras or Graphcore -- An Example

Cerebras

Revenue: **$ 169.7 Million**, estimated to be in the single-digit million USD as of 2023.
Profit: operates at a significant loss due to high hardware development costs.
Cashflow: Backed by prominent investors like BlackRock and Fidelity

Reliant on future funding rounds for sustainability, profitability uncertain due to high hardware costs.

Market Valuation:
Estimated valuation of $4 billion based on limited data and hardware focus.

Graphcore

Revenue: Revenue declined 46% to $ 2.7 million
Profit: It reported pre-tax losses widened 11% to $204.6 million.
Cashflow: Generated positive operating cash flow of £8.5 million for FY22, indicating some financial stability.

Demonstrates early signs of financial stability with positive operating cash flow, but needs to turn a net profit for long-term sustainability.

Market Valuation: . Current market capitalization around $3 billion reflects lower but established revenue stream.

Conclusion

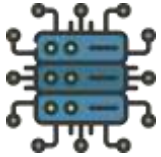
- **Technology:** Cerebras offers a unique and potentially game-changing architecture, while Graphcore provides a more mature and flexible solution.
- **Financial Viability**: Graphcore appears more affordable and has near-term profitability potential, while Cerebras carries higher risks but could offer significant long-term value if successful.
- **Risk Tolerance:** Cerebras involves greater financial and technological risk, while Graphcore presents a safer but potentially less impactful option.

Phase 3: Integration and Talent Retention

Cultural Fit

- Assess the extent of alignment between OpenAI's culture and that of target company.
- Prioritize the startup with a cultural fit that enhances collaboration.

Technological Integration



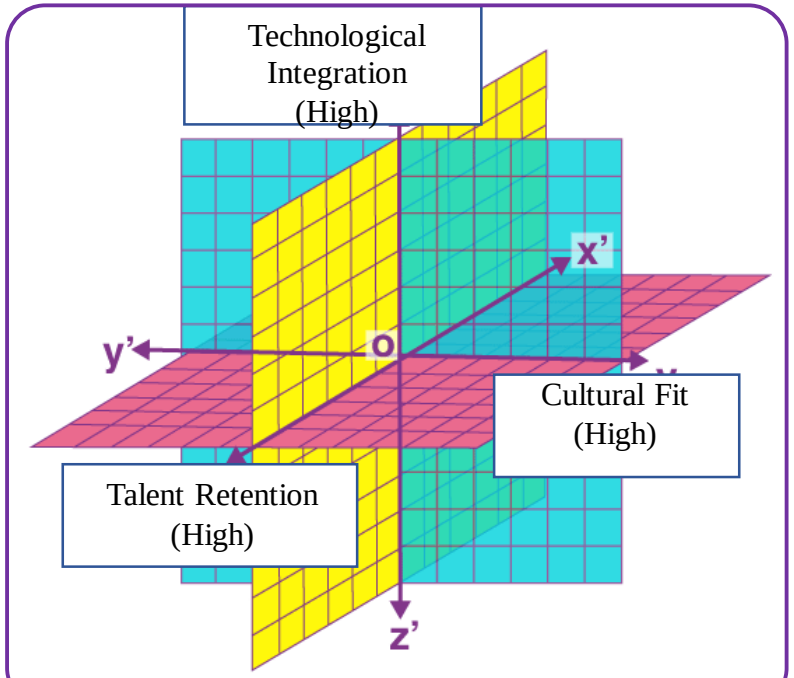
- Evaluate the compatibility and synergies of each startup's technology with OpenAI's systems.
- Prioritize the startup with a technology that seamlessly integrates into OpenAI's infrastructure.

Talent Retention

- Identify the startup with a talent retention strategy that aligns with OpenAI's goals.
- Prioritize the startup with key personnel critical for achieving OpenAI's objectives.

Outcomes & Benefits

- Improves Performance.
- Increased Innovation,
- Enhanced Efficiency.
- Higher Satisfaction



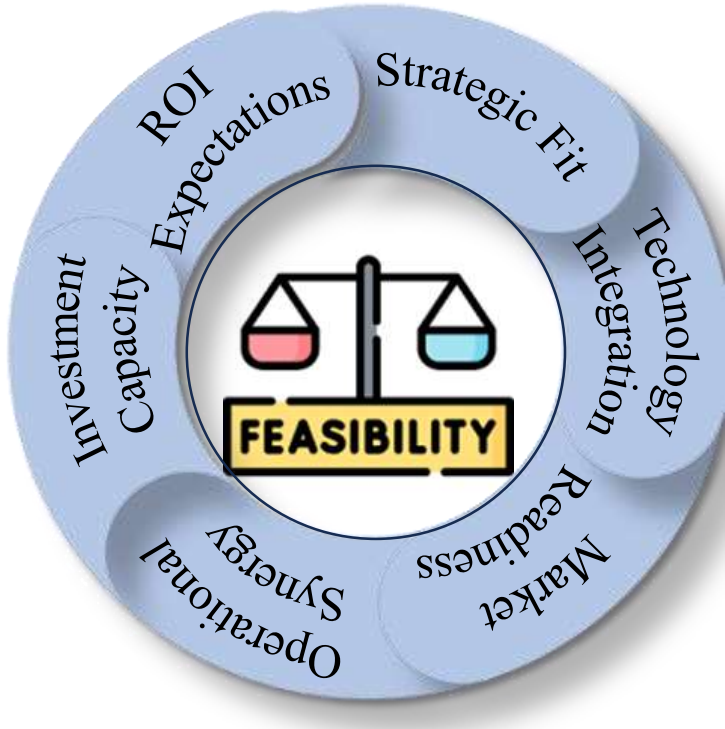
Evaluation Matrix

- Scale: 1(low) to 5(high)
- Assign rating to Firms based on criteria using Data and analysis
- Weight the criteria according to their relative importance and impact on the decision using fractions

Feasibility Analysis

Category	*Strength*	*Weaknesses*
Phase 1	Thorough target identification, cultural alignment, and market analysis	Complexity in technological alignment
Phase 2	Comprehensive technical and financial assessment	Challenges in talent retention and potential financial challenges
Phase 3	Focused cultural fit and technology integration	Challenges in talent retention and potential cultural misalignment

As Is Analysis	To Be Analysis
Dependency on Nvidia GPUs	Innovation Potential
Scaling Concerns	Speed to Market
Poor Performance Efficiency	Reduced Computation time
Chip Shortage	Hardware Software Synergy



Risk Analysis

Risk Identification

- Identify risk associated with proposed onboarding strategy based on technical, economical, Legal and operational factors

Risk Analysis

- Define the certainty of identified risk
- Prepare a matrix to analyze its impact and likelihood of occurrence

Implement solution

- Identify solution and its synergies with OpenAI and the onboarded firm

Analysis metric	Likelihood/ probability of occurrence	
Impact created by identified risk	Risks with less probability of occurrence and High impact	Risk with high probability of occurrence and High Impact
	Risk with less probability of occurrence and less impact	Risk with High probability of occurnce and less impact

Economic Synergies
Cost savings due to operational efficiencies and economies of scale, reducing long-term production costs

Market Alignment
Meets market demands for AI chips, positioning OpenAI to cater to evolving needs

Long Term Viability
Ensures sustained growth and scalability

Strategic Goals
Cements OpenAI's industry leadership, driving innovation in line with their AI advancement goals

Competitive Edge
Access to exclusive technology, patents, enabling development of exceptional chips

Risk Management
Diversifying mitigates dependency risks, ensuring a reliable supply chain

Benefits of this acquisition for Open AI and Startup

Open AI	*Startup*
Future-Proofing: Preparedness for evolving AI requirements.	Financial Support: Enhanced funding for R&D and product development
Customized Solutions: Tailored chip designs for optimized AI model performance	Resource Access: Utilization of OpenAI's expertise and infrastructure.
Strategic Control: Increased autonomy in chip design and strategy.	Market Validation: Credibility boost through association with OpenAI.
Accelerated Development: Faster chip development and deployment.	Stability and Growth: Potential long-term stability and scalability.
Market Leadership: Strengthened position in the AI tech landscape.	Knowledge Exchange: Learning opportunities and skill enrichment.
Diversified Suppliers: Reduced dependency on single suppliers, minimizing risks.	Scale Opportunities: Access to a larger customer base.

Allied Startegy – To de-risk Main Startegy

Licensing and Co-Development with Big Player	Equity Stakes in Multiple Startups
• Risk Diversification • Technological Validation	• Diverse Technological Exposure • Talent Retention through Equity

SOURCES

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3. Top 10 AI Chip Makers of 2024: In-depth Guide (aimultiple.com)
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