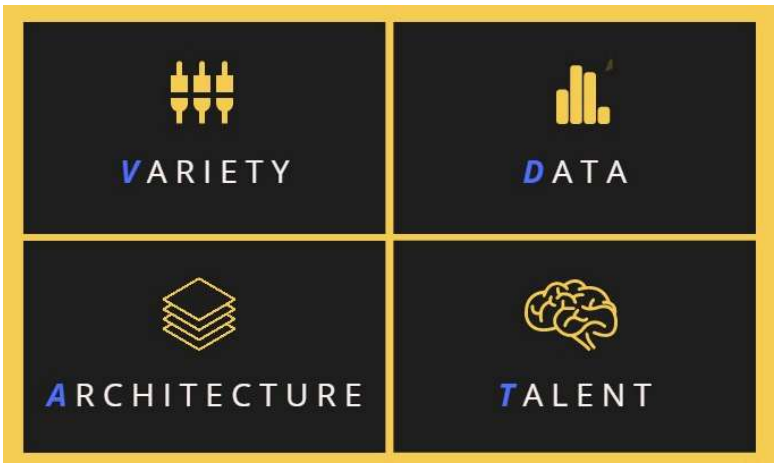
Home My Network Jobs Messaging Notifications Me For Business Claim 1 free mo of Premium Pa



Technology Evaluation of Artificial Intelligence Startups

Dr. Vinish Kathuria
Digital Business Leader. Entrepreneur. Investor. Board Director. Professor

July 2, 2019

Our coffee intake has jumped as more and more of our day is spent sitting in coffee-shops listening to passionate founders pitching AI-based solutions. A critical part of investing in Artificial Intelligent startups is understanding the technology. But before going deeper, we first try to understand whether the problem the startup is solving requires AI.

> The **key** is not just to use AI, but to use it intelligently for problems that **require** it.

Many tasks that one may feel like applying deep learning to can be carried out effectively using rules and basic automation. For a problem like helping a company close its books faster, automation is enough, because the process involves a fixed, narrow range of inputs and outputs. Applying AI here would not only lead to a drain of resources, but unnecessary complications in the implementation of an otherwise relatively simple program.

On the other hand, a 10,000 people organization is going to create millions of security vulnerability points on a regular basis. Not only are these points unpredictable, but even the range of these points is hard to pin down and put into a rules-based setup. Hence a Cybersecurity automation system designed to cater to only limited scenarios will be highly ineffective. Neural networks and deep learning will do a much better job. Here we see an example of an opportunity where AI can add real value.

We like to invest in spaces like these, where an AI-driven solution is the most optimal approach to solving the problem. Once the need for AI is clear, we do a deep dive into the startup's technology. To help us structure this assessment, we apply SenseAI's own VDAT framework, that uses 4 core factors that we feel are required for technical success as an AI-centric startup:

1. Variety in data
2. Data acquisition
3. Architecture
4. Talent acquisition

1. Variety in Data: Of the 3 Vs of Big Data (Volume, Velocity and Variety), Variety plays the biggest role in AI.

Variety of Data refers to the different kinds of possible inputs and outputs for a given system. When there are few inputs and outputs and they are easily quantifiable, simple automation suffices. A good example of this is making ledger entries for a firm according to local accounting procedure and rules. The input is limited in its format to numbers, and the output too is determined by simple, static rules.

The game changes when we talk about a dataset like the visual inputs received by a self-driving car. Here, the variety of inputs is virtually infinite. The system must constantly detect and process input that is chaotic and varied. The same applies for situations like an unauthorized intrusion in the network of a submarine or a corporate environment. Voice driven assistants, especially in Vernacular domain are another example of effective use of AI.

2. Data Acquisition: Effective Machine Learning or Deep Learning require vast quantities of data. Hence, a firm's strategy to acquire data is crucial to its overall strategy. At a high level, the primary source of data is a combination of publicly available data, a firm's own unique data, and customer/partner provided data.

> **AI startups must have a strategy to acquire and integrate data from multiple sources in a cost-effective manner**

With regulations like GDPR, there are regulatory restrictions around the capture, storage, and analysis of data. We assess startups based on their ability to recognize and work around these issues effectively. If a startup can build large and high quality datasets it can give them an edge over the competition. We ask questions like: Is it possible to create a Network effect around the data? Can we build a moat around the firm's own data?

In a product experiencing the Data Network effect, as the volume of data provided to a learning system increases, it generates more value to any individual user even though they only interact personally with a small sliver of the data 'network'. This effect arises due to relationships that emerge between different segments of data.

A Data Moat on the other hand describes a competitive advantage a business holds because of its proprietary data set. It's a modern version of traditional "moats" such as branding, trade secrets, and regulatory capture. We like to invest in startups that strategically exploit the above data-driven advantages and have comprehensive strategy for data acquisition and processing.

3. Architecture: The architecture into which the data is fed needs to be scalable in line with the long-term vision of the company. We like to see if the architecture can be scaled to enterprise-grade or higher. An organization can only fully utilize huge amounts of data from different sources if a sound Data Architecture is in place across the organization.

An important factor the architecture determines is the analysis time-frame. For some kinds of problems - say, obstacle detection in a self-driving vehicle - real

time analysis is essential. The processing power required is then proportionally higher. Other kinds of machine learning applications - say, assigning credit scores to borrowers - can function even with relatively delayed response. The availability of adequate processing power and building of a data architecture fitting to the solution is important.

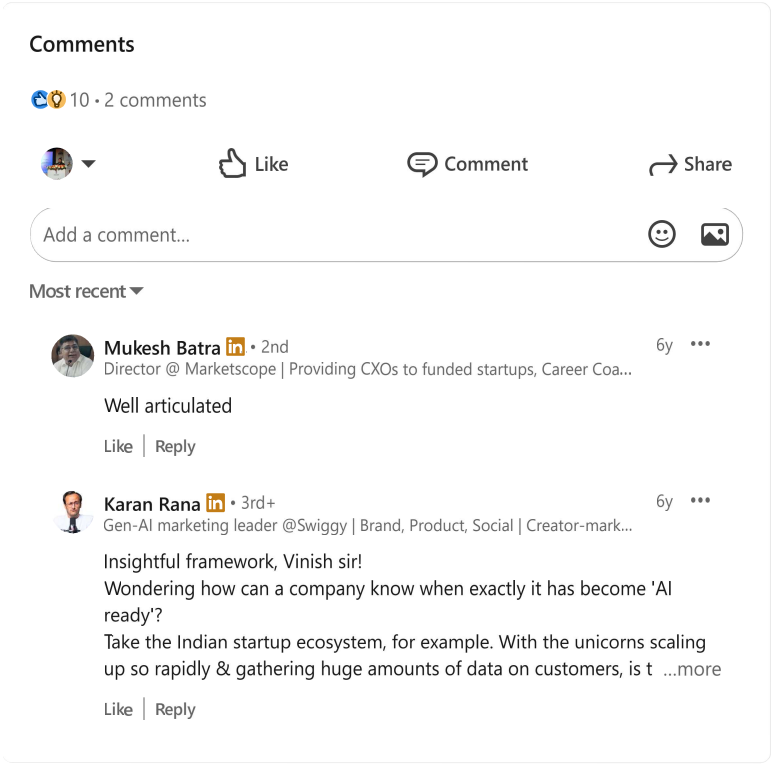
Decisions also need to be made about whether the data architecture is built on premise, on public cloud, or a hybrid combination of the two. These decisions must be made in accordance with the requirements of the product, and in a B2B model, in line with the client's data policies. We like to invest in companies that proactively understand the importance of these decisions.

4. Talent Acquisition: We honestly don't expect entrepreneurs to have answers and solutions to all the issues raised above. However, we do prefer those that have at least thought through these issues and have a rough plan. Recognizing the importance of these issues at a high level goes hand in hand with being able to hire the people that can explore the answers to these questions in detail.

> **It is only in collaboration with domain-experts that AI-based products can be built effectively**

An entrepreneur's ability to understand the talent they need and bring on those that are, in a specific field or technology, more knowledgeable than them, is crucial.

Having a simple framework like VDAT, that distills years of understanding, helps us develop our own hypothesis around the team and product capabilities. Like any framework, we do understand that it may not be all comprehensive, but it has allowed us to make some tangible decisions. We combine it with the frameworks we use for Business Evaluation to make the call regarding whether to invest or not



Enjoyed this article?

Follow to never miss an update.

Dr. Vinish Kathuria

Digital Business Leader. Entrepreneur. Investor. Board Director. Professor

Followed by Ayushman, Kumar and 72 others you know

Follow

More articles for you

The Real AI Revolution: Why Waiting to Be Replaced Is the Wrong Game

Sudais Khalid

2 • 2 comments

From Molecules to Digital AI Artistry & Automation

The Daily Good

10 • 13 comments • 1 repost

About
Accessibility
Talent Solutions
Professional Community Policies
Careers
Marketing Solutions
Privacy & Terms
Ad Choices
Advertising
Sales Solutions
Mobile
Small Business
Safety Center

Questions?
Visit our Help Center.

Manage your account and privacy
Go to your Settings.

Recommendation transparency
Learn more about Recommended Content.

Select Language
English (English)

LinkedIn Corporation © 2026