

<⚡> SuperAGI

# AI Employees White Paper

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# Note from the founder

At SuperAGI, we've been pioneering the development of fully autonomous agents since May last year. Alongside innovators like AutoGPT, we've been at the forefront of creating an open-source ecosystem for agents. Over the past 12 months, we've had a unique vantage point as we've watched the agent landscape evolve and transform. While we've consistently contributed to open-source research, we've intentionally refrained from taking a business stance on agents until now. Now that almost a year has passed, we're excited to share our insights and reflections from a business perspective by delving into some novel trends like the metamorphosis of AI agents into AI Employees. A lot of the insights we are sharing in this report are coming from our stealth product which was used by over 5K users in the first half of 2024.

Happy reading!

**Ishaan Bhola**

Founder, SuperAGI

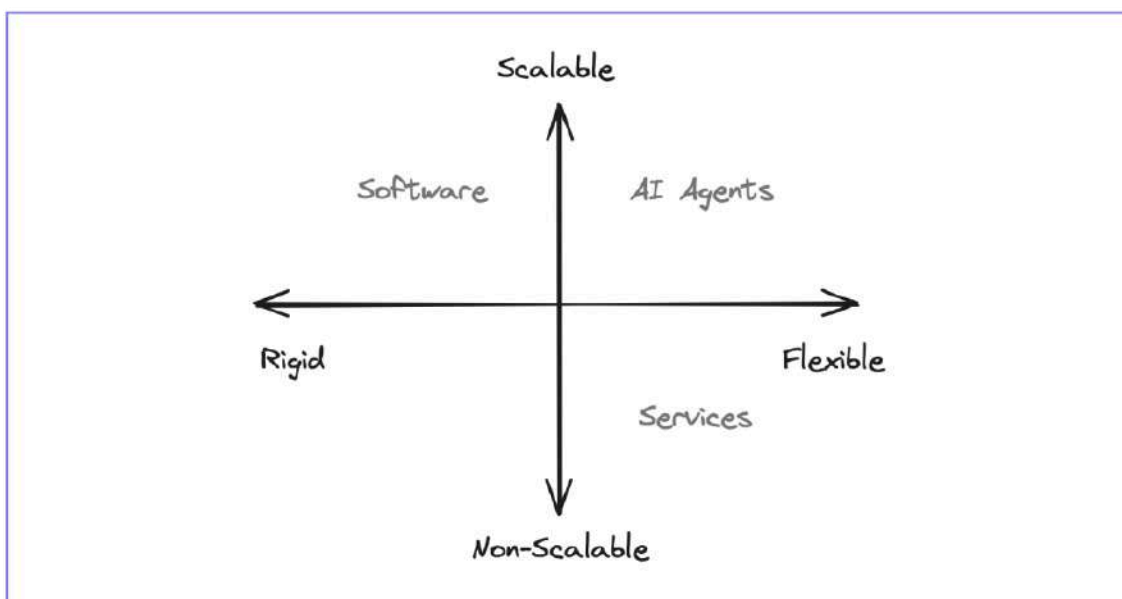
## Part 1

# Business Potential

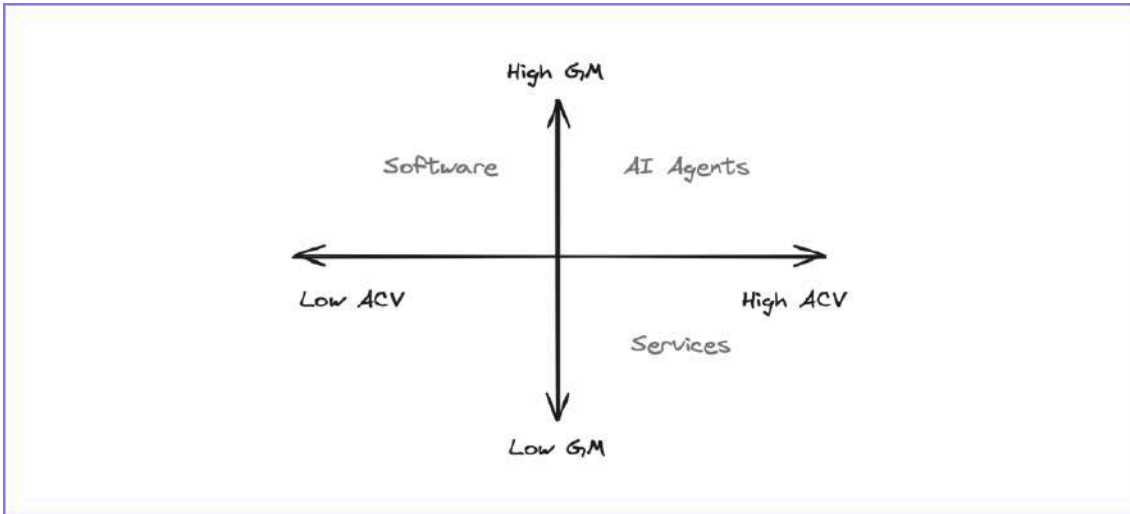
## MARKET LANDSCAPE

AI Agents are targeting two incumbent markets: Software and Services. US Businesses spend \$230Bn annually on B2B SaaS tools. That's a massive market. But SaaS could never run itself. It always required a company to maintain a workforce to operate that software. For example, you could purchase a SaaS CRM but you still had to hire and train a salesperson to do the work. Therefore, US Businesses spend upwards of \$5 Trillion annually on Knowledge Workers – which is a much bigger market than B2B SaaS.

To compete in such huge markets, AI Agents must exceed the incumbents not only in coverage but also in unit economics. In terms of coverage, there was always a tradeoff between Software and Services. Software was always rigid because it was solving for a few specific repetitive workflows which improves the efficiency of operations and/or becomes a System of Record. The reason why Software tries to pick narrow workflows is because it leads to scalability. On the other hand, Services is not as scalable as Software but it is much more flexible. However, AI agents aim to offer the best of both worlds because they are flexible like services and they are also scalable like software because they are powered by general intelligence.

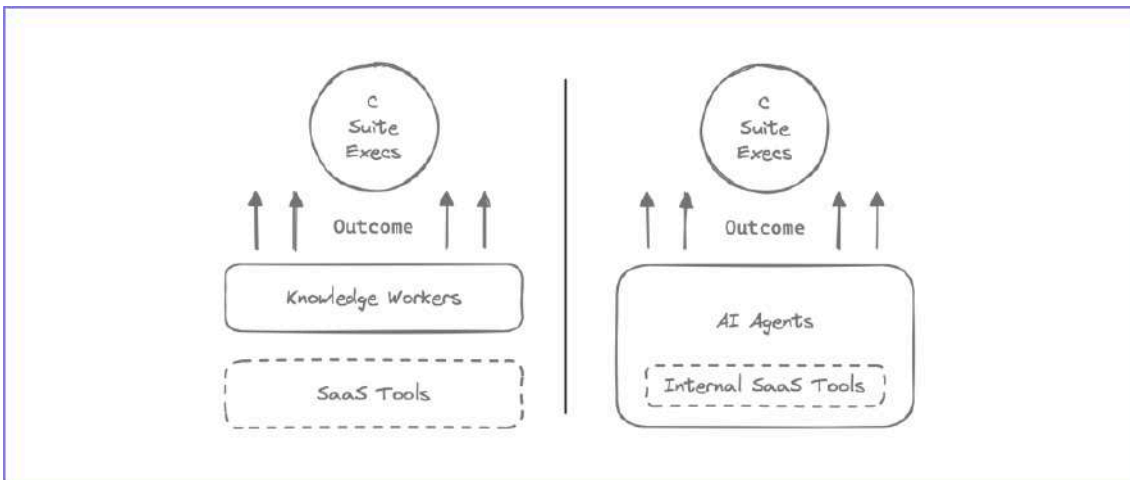


In terms of unit economics too, SaaS and Services have their unique advantages. SaaS has a higher Gross Margin (80%). However, Services were able to offset low gross margins (around 30%) with larger ACVs (Average Contract Value). Again, AI Agents have the potential to offer the best of both worlds – higher ACVs along with high GMs.



## SERVICES AND SOFTWARE FUSING INTO ONE MASSIVE MARKET

The rationale on spending on anything – be it SaaS tools or Knowledge workers – is to get outcomes. Now, if you observe closely, the C-suite executives never interact directly with the SaaS tools. Let’s imagine a possible future, where knowledge workers get replaced with AI Agents. Most of these AI agents may not use the SaaS tools that are commonly used today by knowledge workers. They may have their own SaaS tools (or internal components) that can deliver SaaS tool-like functionalities such as System of Record.



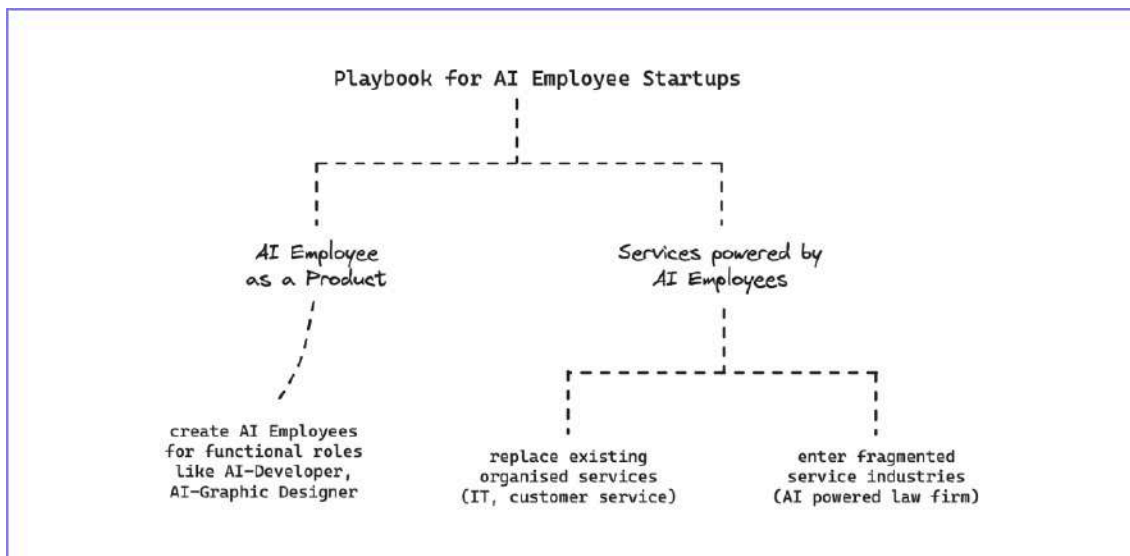
Now, AI Agents can both organize and execute tasks. Therefore, services and software are fusing into one massive market. This fusion creates opportunities for new tech companies to emerge in areas not yet touched by traditional software.

## JEVONS PARADOX

We do expect some roles to disappear as this fusion accelerates. But AI is likely to create a form of Jevons paradox in the long run – where technological progress increases the efficiency with which a resource is used, but the falling cost of use induces increases in demand enough that resource use is increased, rather than reduced. Applied here, that means we expect to see more demand for these AI Agent-led services in the future. This also means that labor is going to be “baked in” to any software an enterprise buys. In the near future, our colleagues may not be human – it could be an AI Employee. From an employer’s perspective, AI Employees have three unique advantages:

1. **Efficiency:** 10x cheaper than Knowledge workers
2. **Availability:** 24x7 availability, even on holidays
3. **Scalability:** Your workforce can scale up and down in ad-hoc manner

## BUSINESS MODELS FOR AI EMPLOYEE STARTUPS



AI Employees can be sold via two different business models:

1. **Product:** Think of this as a new-age software that is easier to use. Customers don’t need the domain knowledge to get the desired outcome as they can interact with them in natural language.

2. **Services:** Think of this as a new-age services company that is 10x cheaper than its human-led counterparts.

There are some key aspects in which these two models differ:

	AI Employee as a Product	AI Employee as a Service
The Offering	Cost/TAT benefits with minimal compromise in Quality	Tailored services at a lower cost without compromising the quality
Target customers	Prosumers/SMEs/Enterprise	SMEs/Enterprise
Pricing	Pricing w.r.t. alternatives (human employees)	Pricing w.r.t. alternatives (legacy service providers)
Human Intervention	No human in the loop	Human validates the tasks done by AI Employees

Due to the above differences, the GTM of the two business models will also be different. But both the business models have an upper hand over legacy services players whose business models rely on human labor and hourly billing which can be turned on its head by AI Employees.

## IDENTIFYING THE RIGHT BUSINESS MODEL FOR YOUR TARGET INDUSTRY

Right now it may seem like both the above models are equally exciting. But if we further narrow down on the industry level, then we will realize that depending on the industry one model will outshine the other one. For a deeper analysis, we need to understand why services are needed in the first place. There are two reasons why clients hire Service firms:

1. For doing a job that the client doesn't have the bandwidth or expertise to do.
2. For offering third-party expertise in decisions (stamp of approval from a third party).

The execution-oriented first bucket tends to include IT implementations (like cloud migration projects), financial audits, and outsourced customer support – things clients want a services firm to do for them.

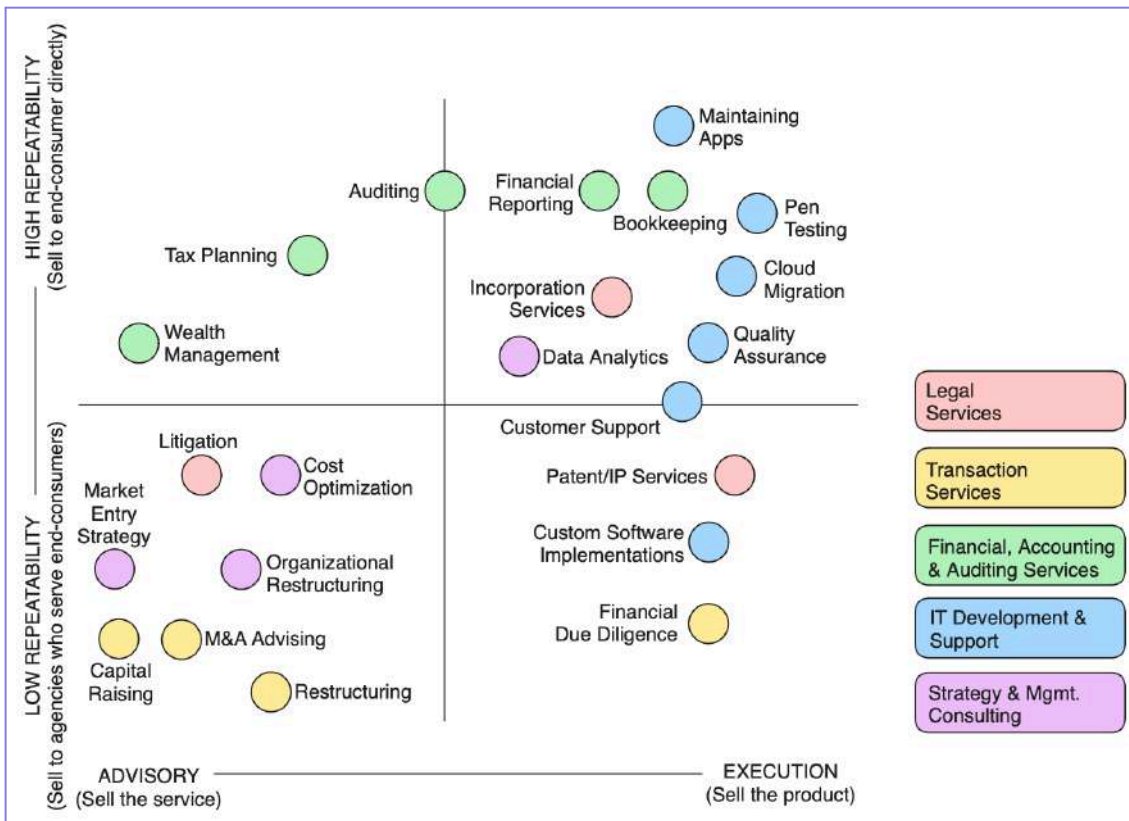
The second more-advisory bucket is home to M&A banking services, strategy consulting, and wealth management – things clients want a services firm to help them with.

For the first bucket, AI-Employee as a Product is the right strategy because these tasks can be easily automated without any human intervention. When you don't have humans in the loop, you can scale faster.

**The more advisory-focused a project is, the less a client will trust an AI Employee.**

Therefore startups in the second bucket should go with the Services business model.

So we've got the "Execution vs. Advisory" dichotomy. The other major axis is "repeatable vs. bespoke." The more repeatable a service, the more productizable. The more productizable, the better the startup opportunity. This axis determines the ICP of your offering. If your use case is repeatable, then selling directly to the end consumer will be easier. But even if the use case is less repeatable and requires customization then you can still make profits by selling your AI Employee product/service to the existing service providers and helping them do more with less.



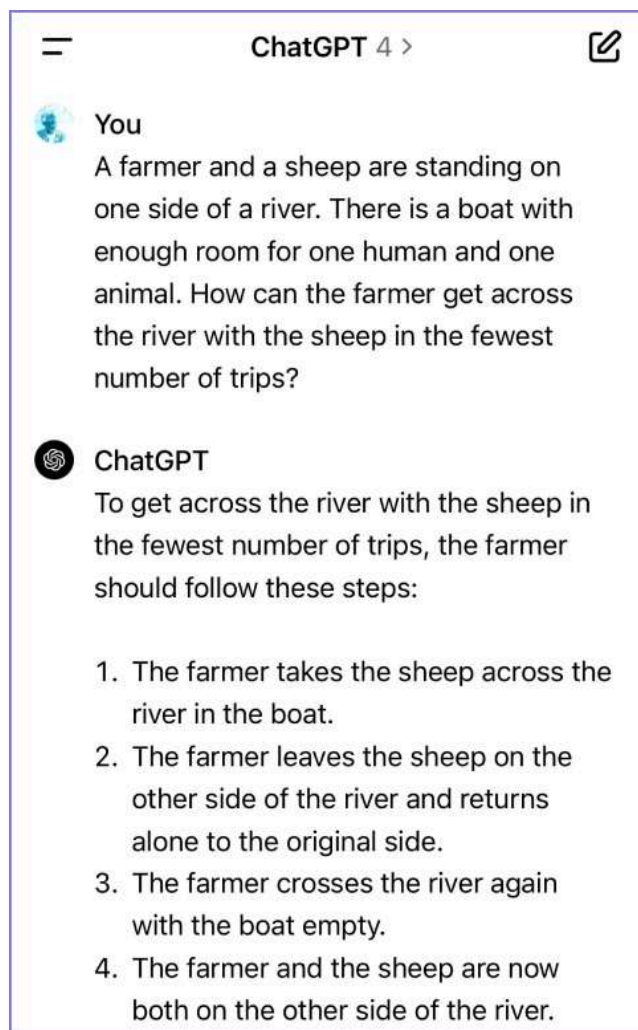


## Part 2

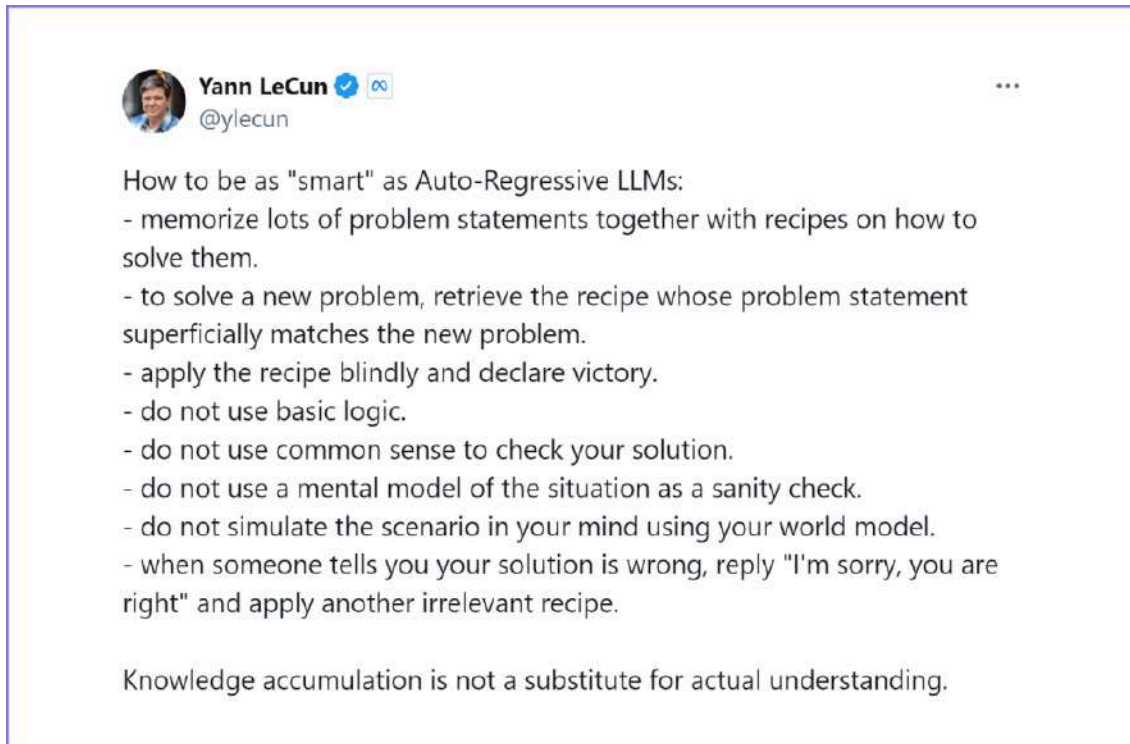
# Technical Considerations

## DO AI EMPLOYEES NEED TO WAIT FOR AGI?

So far we have only made general claims on the potential of AI employees. But what kind of AI employees are we talking about? Are they specialized agents targeting particular domains, or are we referring to generally intelligent agents – powered by AGI? If we can have AGI today, why would we not have it? The truth is we are not close to AGI yet. Here is a screenshot of ChatGPT4 getting a very basic reasoning question wrong:



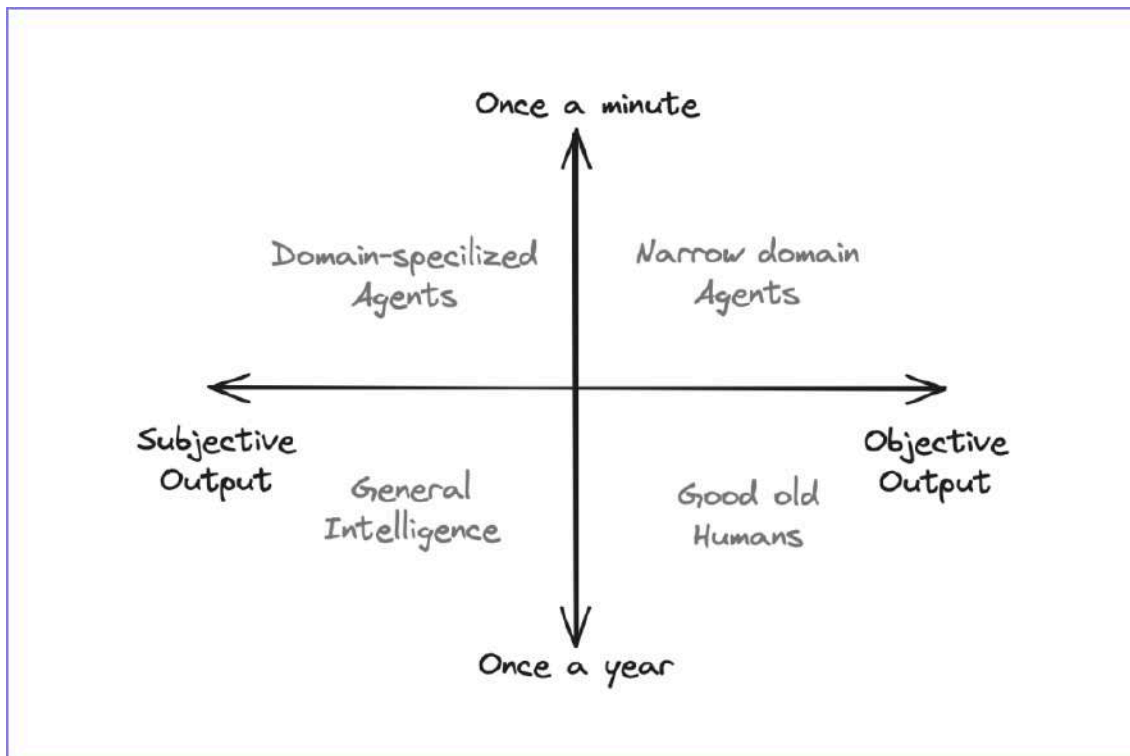
Yann LeCun, the chief AI Scientist at Meta, [reacted](#) to the above screenshot sarcastically and pointed out the obvious flaws in Auto-Regressive LLMs which is the underlying architecture of all the SOTA models like OpenAI's GPT4-turbo, Google's Gemini, and Meta's own Llama 3.



AGI is the dream of this decade, just like self-driving cars were the dream of the previous decade. We could not bring fully autonomous cars to production in the last decade but they are on the horizon. We drew this analogy to highlight the fact that people always overestimate the impact of groundbreaking tech in the short term. So it is possible that true AGI is more than a decade away. However, the remarkable advancements we've made in AI models can still unlock AI Employees, even if AGI-level intelligence is absent today.

## WHAT WILL BE AI EMPLOYEES MADE OF?

From a business lens, we've already understood the nuances around business models. In this section, the idea is to unpack the technical ingredients which will power the AI Employees. This will be a function of the kind of task these employees are designed to do. Depending on the frequency of the task and the nature of the expected output, we can classify the task landscape into four buckets and for each bucket, the ideal solution looks a little different.

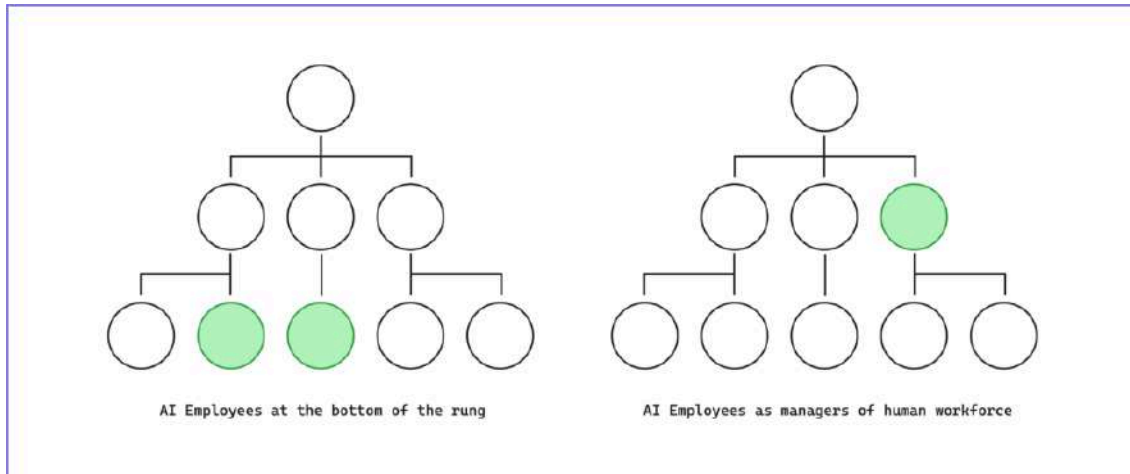


- For frequent tasks with objective outputs where room for error is less, AI Employees will be powered by handcrafted agents, which do not require general intelligence. Their intelligence will be limited to a narrow domain, for example – an agent for hunting influencers on Instagram. These ideas will have relatively small TAM like most other B2B SaaS tools.
- For frequent tasks with subjective outputs where there is some variety in the task execution, AI Employees will be powered by Domain-specialized agents. They can cover a wide range of requests within the given domain allowing them to penetrate multiple sectors. Thus the market size for such agents will be orders of magnitudes higher than the hand-crafted agents because they will be catering to a much larger user base. Examples could be AI-Graphic Designer, AI-Programmer etc.
- For less frequent tasks where the output is subjective implying that the stakes are not very high, we will need AI Employees powered by general intelligence (AGI) as it does not make sense to build Domain-specialized agents for less frequent tasks in a single domain.
- For less frequent tasks where the output is very objective and stakes are high, we are better off by relying on humans than on AI Employees.

Now that we have qualitatively mapped the nature of tasks where AI Employees are a natural fit, it's time to get into the specifics – how will AI Employees fit in the organizational heirarchy?

## IN WHAT ROLE WILL AI EMPLOYEES OPERATE IN AN ORGANIZATION?

Intuitively, we can say AI Employees will be at the bottom of the rung in the organization.



But probably, AI employees can also act as managers as seen in [this demo](#) where AI Agents are running their own development standups at SuperAGI by managing human developers.

Far ahead in the future, AI employees can also be the CEO who is available 24/7, has access to full company data, and can talk to multiple employees at once. If we extend our imaginations even further we can imagine an entire organization composed only of AI employees.

10/11/2023

# Product Strategy

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