The Writing on the Wall of SaaS Software – Does It Come from AI Agents?

by Anders Torvill Bjorvand

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The business of computer software has always been evolving and changing quite rapidly. Right now, the predominant distribution model of SaaS (Software-as-a-Service) is being challenged by agentic AI. Can we discern the times and be prepared and positioned for this disruption? My hope is that this small article might shed some light as to where the software industry might be headed.

In 1998, I built a system that could automatically create Java-based software from data—without a human programmer involved [1]. This was right after the second AI winter, and in many ways, this piece of software reflected the state of the art of its time—i.e., distributed expert systems auto-inferred from real data, or “Big Data,” which was the popular term of the day. Nothing much came from this. But for me, a short glimpse of a distant future was caught.

Personally, I went on to do more traditional software development work, so I jumped on the new bandwagon of building web-based cloud applications commercialized through a SaaS business model. I started as a developer and then ventured into architecture until I progressed to the managerial bigger picture—a common progression for most engineers. So from all these different levels, building business applications has been my main vocation for 32 years, and cloud-based SaaS applications specifically for more than 25 years.

Let me pause for a moment for those who are unfamiliar with the concept of SaaS. It simply means Software as a Service, and it labels the shift from software sold as a one-time license with the occasional paid upgrade to software being sold as a pure subscription. From a financial point of view, the latter is far superior for the software vendor, as you can measure enterprise value much easier by establishing metrics like MRR (monthly recurring revenue) or ARR (annual recurring revenue) and estimations on retention or churn (i.e., how long you will keep a customer on average). It's kind of equivalent to running a bank where the whole market is on a fixed interest rate forever—the closest you come to printing money. The SaaS business model has achieved widespread success around the world, and for the past decade, a special industry of acquiring and holding "forever" exclusively SaaS companies into large SaaS-based portfolio companies has even gained popularity as alternatives to, eg, private equity models, for significant money placements.

In 2018, Gartner Group [2] reported that SaaS was the largest segment of the cloud market with an expected revenue growth of over 22% at the time. However, voices are now being raised as to rapid shifts to the dominance of SaaS.

In March of 2023, Goldman Sachs, like many other analysts in the wake of the ChatGPT moment from late 2022, listed a number of white collar/cognitively oriented skillsets that would be subject to AI automation [3]. And naturally, computer software developers are among those whose efforts could be displaced by the new breed of generative AI. We've already seen this happening through no-code/low-code platforms as well as "coding" through making algorithms in plain English through large language models that are trained on computer programming languages.

And adding together 1+1, it wouldn't take long till someone started asking what this automation of developers would imply for the future of software—and more specifically, its business model. How would it be made, packaged, and deployed? Somewhat surprisingly, these disruptive signals came from Microsoft CEO Satya Nadella on a podcast in December of 2024 [4] with some further clarifications in January of 2025 [5].

Nadella basically prophesied that, with what was coming, "SaaS was dead."
I will explain the details of this, but first, there is someone I'd like you to meet.

Meet My Mother

My mother is a genius when it comes to names, birthdays, and genealogy. She never misses a special occasion in her extended community and makes sure that everyone feels special. And if you need to know who is the third cousin twice removed to the grandfather of the cousin of someone's late wife, she can answer it on the spot. And she is very attentive with text messages, phone calls, visits, and flowers—often catered to the special preferences of every individual. Needless to say, her love language is the giving of gifts and affirmations to others.

But regardless of how impressive my mother is, her sphere of direct influence still comes down to only a few hundred people.

What if my mother could have the same caring capacity at a scale of millions of people—with a flawless memory? What if she were so efficient that she could follow up at a scale of millions of people in the same loving and systematic fashion that she currently follows up in the hundreds? That is the promise of agentic AI.

Agentic AI

Agentic AI refers to artificial intelligence systems that can autonomously make decisions, pursue goals, and take actions in dynamic environments with minimal human intervention.

Let's say you have a charity funded by charitable donations from private individuals. Today, to do so, you need a highly specialized donation management system or a fundraising CRM. What if a supercharged version of my mother could handle the communicative and administrative follow-up of all those donors and their gifts? Why would the charity need a specialized system? My mother would retrieve their gifts in time, thank them in a personalized way, pay attention to their birthdays, and in every way, personalize the care to the preferences of the individual donor.

Let's imagine you are selling cars. What if your sellers closely knew everyone who had ever bought a car from your dealership, their family, and their family's family? Imagine also that your sellers knew which cars everyone had, when they got them, and what their preferences were? And what if that automatically led to individualized follow-up with every customer for both aftermarket and repurchase of the next car? If you could trust your sellers to do all of this by themselves without any added tools, why would you subscribe to a car dealership software system or a customized CRM system to aid them?

This is the exact point of Microsoft's CEO Nadella: The main business logic, customs, policies, and procedures, and the agency to go alongside this, are kept by an AI agent. Nadella also pointed out [5] that: "I think the notion that business applications exist, ... they are essentially CRUD databases with a bunch of business logic."

CRUD is an abbreviation for the most basic operations done to a data table: Create, Retrieve, Update, and Delete. And the storage of these tables could be from a generic CRM or a simple online table storage solution. I would actually argue that the agent could even hold such simple tables in its working memory or context window, but that is not the main point here.

It is also relevant to point out that Nadella's argument about CRUD tables is a gross oversimplification. There are plenty of industry-specific systems out there that contain very complex business logic, intricate data models that back these structures, and functions that interact with APIs of banks, payment providers, government reporting, compliance requirements, etc., that make sure all of these always work together and that policies are followed.

Is the Genie in the Bottle or Outside of It?

Given that these underlying tables are as simple as Nadella argues in [5], he goes on to argue that the orchestration of these very basic functions will be done on top through agentic AI.

You could, of course, argue that a very advanced agentic AI with a very well-written policy could orchestrate all of this if very well-written APIs were available, but you would then still need to subscribe to these APIs as well as have a reliable policy maker that would guarantee that the agentic orchestration was properly instructed and maintained. This also raises many questions as to data governance, security, and compliance.

We also see trends that agentic AI is being built right into some of the more sophisticated software systems. So, for the business model of SaaS, it is a very real question whether or not the AI genie will operate on the outside of the bottle or actually from the inside of the SaaS system.

If I dare prophesy, I believe the following might happen:

- We will see more no-code/low-code tools that can structure data, as organizations likely don't want their data to be just semi-structured, as could be the case through large language models.
- Agentic AI and these no-code/low-code tools will likely merge, and the skill of programming for simpler domains will be a kind of policy writing. More advanced policies could also technically work, but more likely, they would then be the subject of being commercialized through an SaaS model in their own right.
- Trivial tools for automation and agency, like if-this-then-that (IFTTT) tools, will not survive as standalone SaaS services.
- More comprehensive SaaS platforms that make it easy for customers to adapt to best practices could have a strong future, but they will need to adopt a pragmatic approach to the AI genie in the bottle. Likely, they will need to provide agentic orchestration tools on the inside as well as open up to interacting with outside orchestration tools through APIs. One aspect of this is also opening up to natural language processing as an alternative to conventional user interfaces.

All in all, a future trend will be that computer programming will shift toward governance of business policies—probably with quite strict natural language to acquire precision. A little over a decade ago, we all thought these policies would be handled by the semantic web with its promise of universal schemas—i.e., shared universal representations of similar business objects like invoices, products, ledgers, payments, etc. Based on these defined interfaces, the monolithic business objects would talk to one another, exchange data, and initiate processes. That has only happened to a very limited extent. Now it seems that AI agents will be able to handle natural language protocols for storage and interchange of both data and policies.

The future of SaaS is likely one of co-existence and convergence, where agentic AI and policy-driven platforms work in tandem to serve customers more proactively, flexibly, and intelligently. If "the writing on the wall" indeed comes from AI agents, it might also remind us that every disruption is an opportunity to craft smarter

solutions—and that tomorrow’s most enduring successes will belong to those who adapt while retaining a human touch in a fast-changing technological landscape.

References

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